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# SOIL SURVEY

# Franklin County Alabama


UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
ALABAMA AGRICULTURAL EXPERIMENT STATION
and
ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES

# HOW TO USE THE SOIL SURVEY REPORT

THIS SOIL SURVEY of Franklin County, Ala., will serve several groups of readers. It will help farmers in planning the kind of management that will protect their soils and provide good yields; assist engineers in selecting sites for roads, buildings, ponds, and other structures; aid foresters in managing woodlands; and add to our knowledge of soil science.

### Locating Soils

Use the index to map sheets at the back of this report to locate areas on the large map. The index is a small map of the county on which numbered rectangles have been drawn to show where each sheet of the large map is located. When the correct sheet of the large map has been found, it will be seen that boundaries of the soils are outlined, and that there is a symbol for each kind of soil. All areas marked with the same symbol are the same kind of soil, wherever they occur on the map. The symbol is inside the area if there is enough room; otherwise, it is outside the area and a pointer shows where the symbol belongs.

### Finding Information

This report contains sections that will interest different groups of readers, as well as some sections that may be of interest to all.

*Farmers and those who work with farmers* can learn about the soils in the section "Descriptions of the Soils" and then turn to the section "Use and Management of Soils." In this way, they first identify the soils on their farm and then learn how these soils can be managed and what yields can be expected. The "Guide to Mapping Units" at the back of the report will simplify use of the map and report. This guide lists each soil and land type mapped in the county, and the page where each is described. It also lists for each soil and land type, the capability unit and woodland suitability group, and the pages where each of these is described.

*Foresters and others interested in woodlands* can refer to the subsection "Use of Soils as Woodland." In that subsection the soils in the county are grouped according to their suitability for trees, and factors affecting the management of woodland are explained.

*Engineers* will want to refer to the subsection "Engineering Properties of Soils." Tables in that subsection show characteristics of the soils that affect engineering.

*People interested in science* will find information about how the soils were formed and how they were classified in the section "Formation and Classification of Soils."

*Students, teachers, and other users* will find information about soils and their management in various parts of the report, depending on their particular interest.

Newcomers in Franklin County will be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the section "General Nature of the Area," which gives additional information about the county.

* * * * *

Fieldwork for this survey was completed in 1961. Unless otherwise indicated, all statements in the report refer to conditions in the county at the time the survey was in progress. The soil survey of Franklin County was made as a part of the technical assistance furnished by the Soil Conservation Service to the Franklin County Soil Conservation District.

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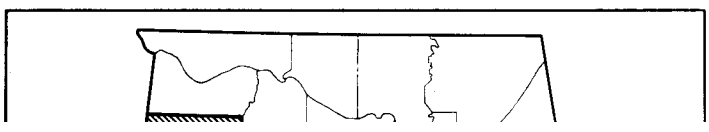
# Contents

# SOIL SURVEY OF FRANKLIN COUNTY, ALABAMA

BY HOYT SHERARD, R. A. YOUNG, J. P. BRYANT, SAM J. SMITH, AND JAMES A. GIBBS, SOIL CONSERVATION SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, IN COOPERATION WITH THE ALABAMA AGRICULTURAL EXPERIMENT STATION AND THE ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES

FRANKLIN COUNTY is in northwestern Alabama, [redacted] major enterprises. Most of the hay and small grain and [redacted]



## How Soils Are Mapped and Classified

Soil scientists made this survey to learn what kinds of soils are in Franklin County, where they are located, and

management could not be made if they were shown on the soil map as one unit. Such soil types are divided into phases. The name of a soil phase indicates a feature that affects management. For example, Savannah very fine sandy loam, 2 to 6 percent slopes, is one of several phases of Savannah very fine sandy loam, a soil type that ranges from nearly level to strongly sloping.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that greatly help in drawing boundaries accurately. The soil map in the back of this report was prepared from the aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning

## General Soil Map

After studying the soils in a locality and the way they are arranged, a soil scientist can make a general map that shows the main patterns of soils, called soil associations. Such a map is the colored general soil map in the back of this report. Each association, as a rule, contains a few major soils and several minor soils, in a pattern that is characteristic though not strictly uniform.

The soils within any one association are likely to differ in many properties; for example, slope, depth, stoniness, or natural drainage. Thus, the general soil map does not show the kind of soil in any particular place, but patterns of soils, in each of which are several different kinds of soils.

Each soil association is named for the major soil series

2. Savannah-Buxton-Saffell associations: Moderately well drained [illegible]

winding ridgetops with steep side slopes that terminate in Soil Conservation Service. In the second part, the soils

The eight classes in the capability system, and the subclasses and units in this county, are described in the list that follows.

Class I. Soils that have few limitations that restrict their use.

Capability unit I–12.—Deep, well-drained soils on stream terraces in the Coastal Plain; slopes of 0 to 2 percent.

Capability unit I–43.—Deep, well-drained soils on local alluvium in limestone valleys; slopes of 0 to 2 percent.

Class II. Soils that have some limitations that reduce the choice of plants or require moderate conservation practices.

Subclass IIe. Soils subject to moderate erosion if they are not protected.

Capability unit IIe–12.—Slightly eroded and eroded, deep, well-drained soils that are on uplands and stream terraces, are gravelly in some places and have a fine sandy loam to sandy clay subsoil; slopes of 2 to 6 percent.

Capability unit IIe–15.—Slightly eroded and eroded, moderately deep, moderately well drained soils that are on uplands and stream terraces and have a fragipan in the lower subsoil; slopes of 2 to 6 percent.

Capability unit IIe–41.—Eroded, deep, well-drained soils on uplands of the limestone valleys; slopes of 2 to 6 percent.

Capability unit IIe–44.—Eroded, deep or moderately deep, well-drained soils that are on upland plateaus and are over sandstone and shale; slopes of 2 to 6 percent.

Subclass IIw. Soils that have moderate limitations [illegible]

Capability unit IIIe–46.—Eroded, moderately deep, moderately well drained soils that have a lower subsoil of plastic clay and are over limestone; slopes of 2 to 6 percent.

Capability unit IIIe–48.—Eroded soils that have a plastic clay subsoil and are over limestone and shale; slopes of 2 to 6 percent.

Capability unit IIIe–111.—Severely eroded, deep, well-drained soils that are on Coastal Plain uplands and have a red, friable clay loam subsoil; slopes of 2 to 6 percent.

Capability unit IIIe–441.—Severely eroded, red soils that are on uplands in limestone valleys and are deep and well drained; slopes of 2 to 6 percent.

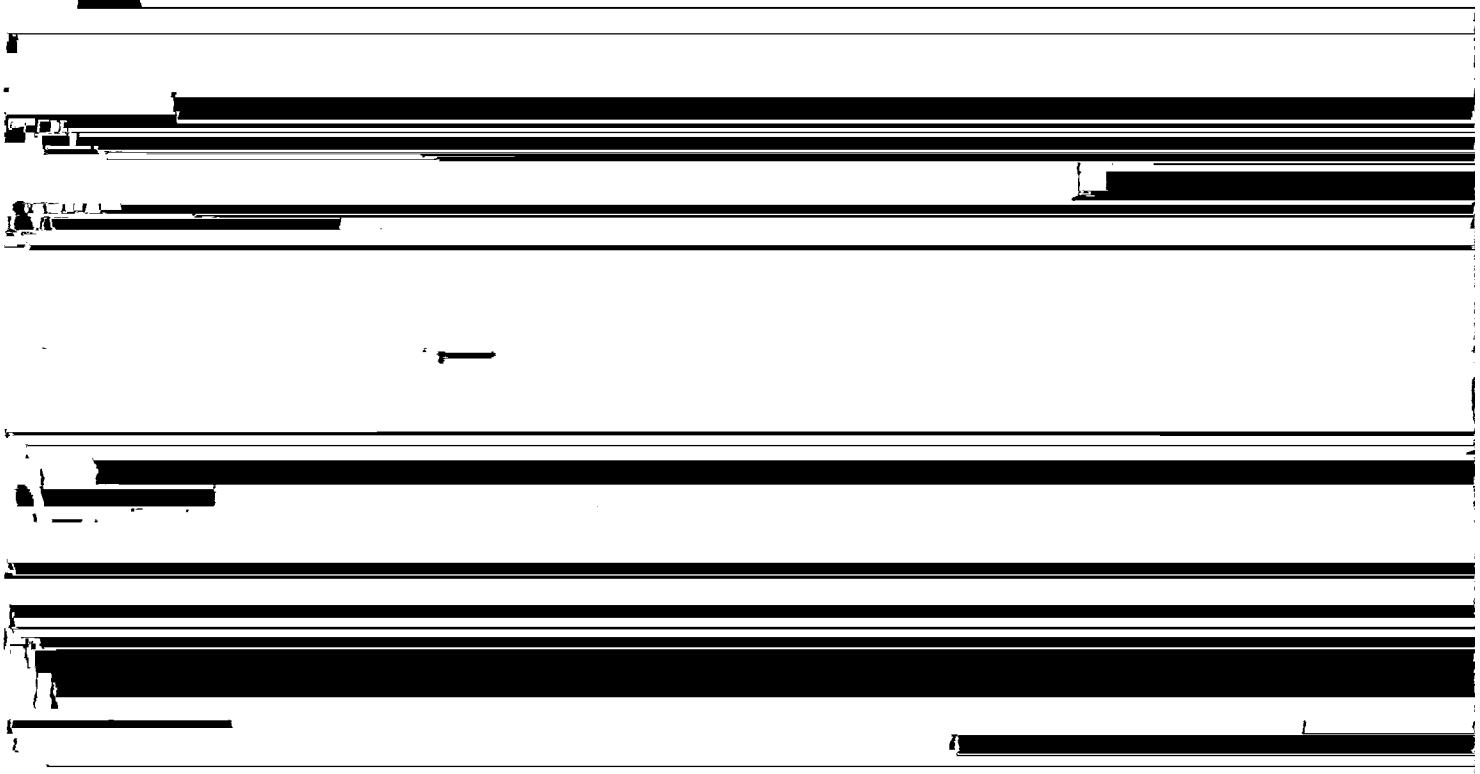
Subclass IIIw. Soils that have severe limitations because of excess water.

Capability unit IIIw–41.—Poorly drained, deep soils on first bottoms in limestone valleys; slopes of 0 to 2 percent.

Capability unit IIIw–42.—Somewhat poorly drained and poorly drained, moderately deep to shallow soils that have a compact, plastic clay or silty clay subsoil; slopes of 0 to 2 percent.

Capability unit IIIw–43.—Somewhat poorly drained to moderately well drained, dark-colored, plastic clays that are moderately deep and are over limestone; slopes of 0 to 2 percent.

Class IV. Soils that have very severe limitations that restrict the choice of plants, require very careful management, or both.



Class V. Soils not likely to erode that have other limita- Capability unit VIIs–48.—Land without a con-

About 95 percent of the acreage is cultivated. Crops suitable on this soil are corn, cotton, grain sorghum, soybeans, small grain, and truck crops. Also suitable are fescue, alfalfa, white clover, sericea lespedeza, and most other grasses and legumes.

Continuous row crops produce high yields if each crop is followed by a winter cover crop and all residue is returned to the soil. This soil needs moderate additions of fertilizer, and crops respond well to these additions. Legumes and many other crops respond well to the addition of lime. Good tilth can be maintained by large additions of organic matter. The moisture content is generally favorable for tillage. Runoff and erosion are not serious problems.

causes a moderate hazard of further erosion. These soils are low in natural fertility and organic-matter content and are medium acid to very strongly acid. The soils are—

Cane loam, 2 to 6 percent slopes, eroded.
Captina silt loam, 2 to 6 percent slopes.
Ora fine sandy loam, 2 to 6 percent slopes, eroded.
Ora fine sandy loam, heavy substratum, 2 to 6 percent slopes, eroded.
Prentiss fine sandy loam, 2 to 6 percent slopes.
Savannah very fine sandy loam, 2 to 6 percent slopes.
Savannah very fine sandy loam, 2 to 6 percent slopes, eroded.
Tilden fine sandy loam, 2 to 6 percent slopes.

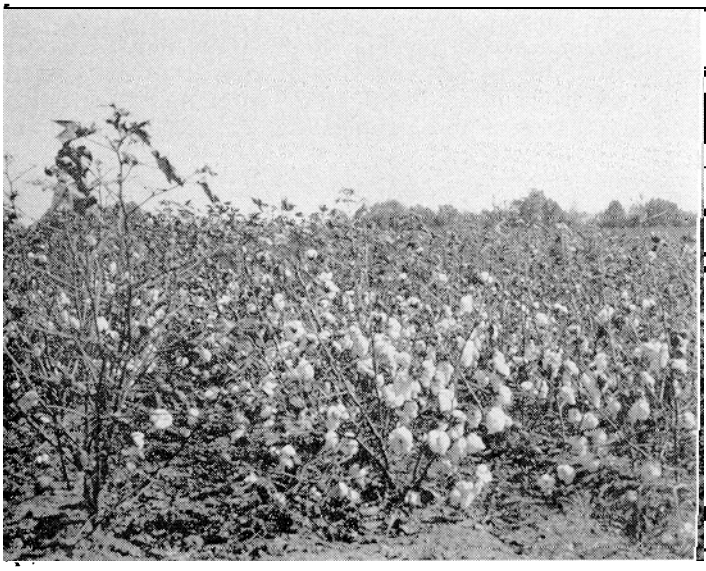
Approximately 70 percent of the total acreage in this capability unit is cultivated. Suitable crops are cotton, corn, small grain, soybeans, grain sorghum, truck crops,

In this capability unit are deep, well-drained, friable fine sandy loams, loams, and gravelly fine sandy loams that developed on uplands and stream terraces. Slopes range from 2 to 6 percent. These soils are strongly acid. Their subsoil ranges from fine sandy loam to sandy clay. These soils have good structure, and they are permeable to water, air, and roots to a depth of several feet. Natural fertility and the supply of organic matter are low. Infiltration is medium to rapid, and the available moisture capacity is moderate. Runoff causes a moderate erosion hazard. The soils are—

Cahaba fine sandy loam, 2 to 6 percent slopes.
Greenville loam, 2 to 6 percent slopes, eroded.
Linker fine sandy loam, 2 to 6 percent slopes, eroded.
Ruston fine sandy loam, 2 to 6 percent slopes, eroded.
Saffell gravelly fine sandy loam, 2 to 6 percent slopes.

About 75 percent of the acreage is cultivated. The soils are suited to cotton, corn, small grain, soybeans, grain sorghum, truck crops, and most grasses and legumes. A good cropping system consists of 2 years of a grass-legume

*Figure 2.—Pasture of Kentucky 31 fescue and white clover on*



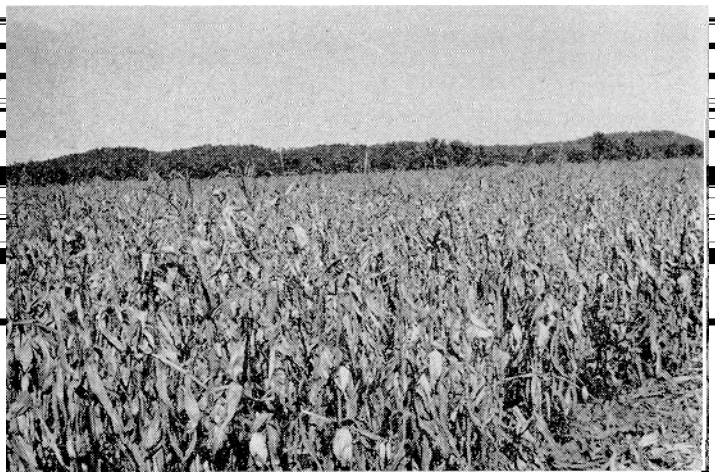


*Figure 5.*—**Soybeans on Iuka fine sandy loam. This field will yield an estimated 25 bushels per acre. In background, at right, is Guin gravelly sandy loam, 15 to 40 percent slopes.**

of row crops. Row crops can be grown continuously if a large amount of crop residue is returned to the soil each year, but their yields are generally lower than those of crops grown in a rotation that includes sod.

Large amounts of fertilizer and organic material are needed for high production. Most legumes and many other crops respond well to additions of lime. Good tilth can be maintained by using sod crops in the cropping system.

Excess moisture interferes with tillage and other field operations at times. Surface drainage is needed in some areas to remove excess water. Runoff is not a serious problem.

#### CAPABILITY UNIT IIw-15

In this capability unit are friable, moderately deep, moderately well drained soils that occur on slopes of 0 to 2 percent on uplands and stream terraces. These soils have a fragipan, 18 to 30 inches below the surface, that retards the movement of water and air and the penetration of roots. The surface layer is fine sandy loam or very fine sandy loam 6 to 8 inches thick, and the subsoil is friable very fine sandy loam or loam. Infiltration is medium in these soils, and runoff is slow. Permeability is moderate in the surface layer and the upper subsoil but is slow to very slow in the fragipan. The available moisture capacity is moderate to low. These soils warm up slowly in spring and are somewhat droughty in dry periods. They are strongly acid or very strongly acid and large amount of residue is returned to the soil each year, but yields of row crops are higher if the cropping system includes sod or winter legumes.

Large applications of fertilizer increase the yields of crops and pasture. Legumes and most other crops need added amounts of lime. Because the fragipan limits the moisture available in the root zone, plants are likely to be affected during periods of little or no rain. Tillage can be performed best within a narrow range of moisture content.

#### CAPABILITY UNIT IIw-41

In this capability unit are deep, friable, moderately well drained soils that occur on first bottoms and in depressions at the heads of and along small drainageways and draws. Slopes range from 0 to 2 percent. These soils developed in local and general alluvium that washed chiefly from soils derived from high-grade limestone. The surface layer is generally silt loam 5 to 8 inches thick. It is underlain by friable silt loam or light silty clay loam that is mottled with gray and brown, generally at a depth of 18 to 30 inches. These soils have weak structure but are permeable to water, air, and roots. The available moisture capacity is high. Surface runoff is slow. After heavy or prolonged rains, areas in depressions are subject to ponding for a short period, and areas on first bottoms are flooded at times, but seldom for longer than 1 or 2 days. These soils are medium in natural fertility and organic-matter content and are slightly acid to strongly acid. The soils are—

Lindside silt loam.
Lindside silt loam, local alluvium.

Approximately 65 percent of the acreage of this capability unit is cultivated. The soils are well suited to corn, cotton, soybeans, grain sorghum, small grain, some truck crops, and most grasses and legumes. Fescue and white clover are especially suitable. A suitable cropping system consists of 2 years of a sod crop followed by 2 years of row crops. Row crops can be grown continuously if a large amount of crop residue is returned to the soil each year.

Large amounts of fertilizer and organic matter are needed for high production. Most legumes and many other crops respond well to additions of lime. Good tilth can be maintained by using crop residue properly and by including sod in the cropping system.

Excess moisture interferes with tillage and other field operations, and drainage ditches are needed in some areas. Runoff is not a serious problem.

#### CAPABILITY UNIT IIIe-12

The soils in this capability unit are strongly acid, friable fine sandy loams and gravelly fine sandy loams that occupy upland slopes of 6 to 10 percent and are deep and well drained. Their subsoil is friable and ranges from

Approximately 70 percent of the acreage in this capability unit is cultivated. The crops suitable for these soils are cotton, corn, small grain, soybeans, sorghums, truck crops, most grasses, and sericea lespedeza and most other legumes. These crops can be grown in one of the following cropping systems: (a) 4 years fescue and ball clover or white clover, or another grass-legume sod crop, followed by 2 years of row crops; (b) 3 years of sod followed by 2 years of row crops, the residue of which is properly used; or, (c) 2 years of a sod crop followed by 1 year of a row crop.

These soils need lime and large amounts of a complete fertilizer and crop residue. They respond well to these amendments. Tilth is generally good and can be maintained by using a good cropping system. The range in moisture content suitable for tillage is generally wide. The gravel in some of these soils interferes with tillage.

Runoff and erosion can be reduced most effectively by using a cropping system that includes perennial sod. Practices generally needed to control runoff in cultivated system and to use crop residue properly. Additional practices generally needed in cultivated areas are contour tillage, stripcropping or terracing, grassing waterways, and using field borders.

#### CAPABILITY UNIT IIIe-44

This capability unit consists of moderately deep or deep, well-drained soils on upland slopes of 6 to 10 percent. These soils have a moderately thick root zone. Their subsoil is friable to firm silty clay loam to clay. Tilth is generally good in slightly eroded areas and is fair to poor in eroded areas. Infiltration is medium to slow, permeability is moderate to slow, and the available moisture capacity is moderate to low. Surface runoff is medium to rapid, and the erosion hazard is severe. The soils are low in fertility and organic-matter content and are strongly acid to very strongly acid. The soils are—

Albertville fine sandy loam, 6 to 10 percent slopes.
Albertville fine sandy loam, 6 to 10 percent slopes, eroded.

mottled, plastic heavy silty clay or clay. The surface layer and the upper subsoil are strongly acid, but in some areas the lower subsoil is only slightly acid or neutral. Although structure is strong, the soil is very slowly permeable to water, air, and roots. It is low in natural fertility and contains little organic matter. Runoff is medium, infiltration is slow to very slow, the available moisture capacity is low, and the hazard of further erosion is severe.

Approximately 50 percent of the acreage is cultivated. Suitable crops are corn, cotton, small grain, grain sorghum, soybeans, and most grasses and legumes. These can be capacity is moderate. Natural fertility is moderate, but the supply of organic matter is low. Rapid runoff causes a severe hazard of further erosion.

About three-fourths of the acreage of this soil is cultivated. Suitable crops are cotton, corn, small grain, soybeans, sorghums, some truck crops, and many grasses and legumes. These can be safely grown in a cropping system that consists of 4 years of a grass-legume mixture followed by 2 years of row crops, or in one consisting of 2 years of a sod crop followed by 1 year of a row crop. The soil is well suited to permanent pasture.

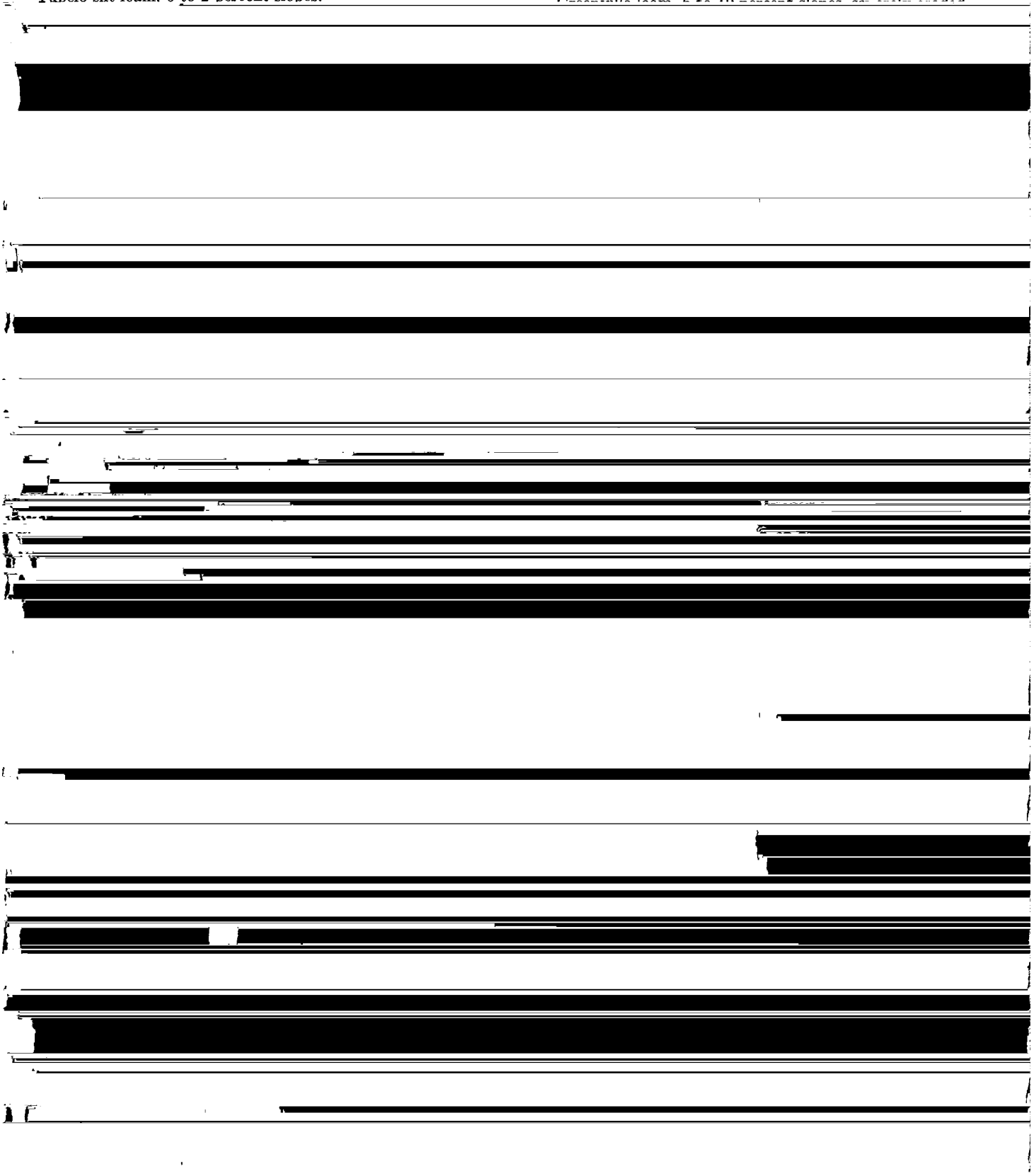
This soil needs large additions of fertilizer and responds

drainage is a greater hazard than erosion. The soils are—

Colbert silt loam, 0 to 2 percent slopes.
Dowellton silty clay, 0 to 2 percent slopes.
Tunelo silt loam, 0 to 2 percent slopes.

and available moisture capacity are moderate. Natural fertility and content of organic matter are low. The soils are—

Greenville loam, 6 to 10 percent slopes, eroded



drained. It occupies upland slopes of 6 to 10 percent. Shallow gullies are common, and a few deep ones have formed in some areas. The surface layer and the upper

a few deep gullies have formed in some areas. These soils are slow in infiltration and permeability and have a low available moisture capacity. The surface layer

bermudagrass, and other perennial sod crops, and to reseeding crimson clover and similar winter annuals. Large additions of fertilizer, lime, and organic matter are needed for all crops. The response to good management is fair to poor. Good tilth is very difficult to maintain. Crops that require little or no tillage are best for these soils. Erosion is a serious hazard but can be reduced by

These soils need large additions of fertilizer, lime, and organic matter if they are used for sod crops. Tillage should be kept to a minimum. Erosion is a serious hazard but can be controlled by maintaining perennial sod. In areas planted to sod crops, till and plant on the contour and keep waterways in growing plants.

CAPABILITY UNIT VIe-11

TABLE 1.—*Estimated average yields per acre of the principal crops under two levels of management*

[Yields in columns A are those obtained under common management; those in columns B are yields to be expected under improved management. Dashed lines indicate that crop is not commonly grown on the soil and is poorly suited to it]

| Soil | Capability unit | Corn | | Cotton (lint) | | Wheat | | Soybeans | | Sericea lespedeza | | Pasture | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | A | B | A | B | A | B | A | B | A | B |
| | | *Bu.* | *Bu.* | *Lbs.* | *Lbs.* | *Bu.* | *Bu.* | *Bu.* | *Bu.* | *Tons* | *Tons* | *Cow-acre-days* [1] | *Cow-acre-days* [1] |
| Albertville fine sandy loam, 2 to 6 percent slopes, eroded | IIe–44 | 30 | 60 | 425 | 650 | 12 | 20 | 10 | 20 | 1. 5 | 3. 0 | 80 | 160 |
| Albertville fine sandy loam, 6 to 10 percent slopes | IIIe–44 | 28 | 45 | 320 | 550 | 10 | 18 | 10 | 20 | 1. 0 | 2. 0 | 75 | 140 |
| Albertville fine sandy loam, 6 to 10 percent slopes, eroded | IIIe–44 | 28 | 45 | 320 | 550 | 10 | 18 | 10 | 20 | 1. 0 | 2. 0 | 75 | 140 |
| Albertville fine sandy loam, shallow, 10 to 15 percent slopes | VIe–49 | | | | | | | | | 1. 0 | 1. 4 | 40 | 90 |
| Bibb loam | IVw–11 | 20 | 60 | | | | | 15 | 35 | | | 80 | 130 |
| Cahaba fine sandy loam, 0 to 2 percent slopes | I–12 | 40 | 75 | 500 | 750 | 18 | 25 | 15 | 30 | 2. 5 | 3. 5 | 120 | 200 |
| Cahaba fine sandy loam, 2 to 6 percent slopes | IIe–12 | 35 | 65 | 500 | 700 | 15 | 25 | 15 | 30 | 2. 0 | 3. 0 | 90 | 180 |
| Cane loam, 2 to 6 percent slopes, eroded | IIe–15 | 30 | 60 | 400 | 600 | 15 | 25 | 15 | 25 | 2. 0 | 3. 0 | 105 | 175 |
| Cane loam, 6 to 10 percent slopes, eroded | IIIe–15 | 25 | 50 | 375 | 500 | 12 | 20 | 15 | 20 | 2. 0 | 2. 8 | 90 | 160 |
| Captina silt loam, 2 to 6 percent slopes | IIe–15 | 30 | 60 | 400 | 600 | 15 | 25 | 15 | 25 | 2. 0 | 3. 0 | 105 | 175 |
| Colbert silt loam, 0 to 2 percent slopes | IIIw–42 | 15 | 30 | 160 | 350 | 12 | 22 | 10 | 20 | 1. 0 | 2. 0 | 75 | 120 |
| Colbert silt loam, 2 to 6 percent slopes, eroded | IIIe–48 | 15 | 35 | 200 | 350 | 10 | 20 | 10 | 20 | 1. 0 | 2. 0 | 70 | 120 |
| Colbert silt loam, 6 to 10 percent slopes, eroded | IVe–48 | 10 | 25 | 140 | 300 | | 14 | | 14 | . 8 | 1. 5 | 50 | 90 |
| Colbert silt loam, 10 to 15 percent slopes, eroded | VIe–48 | | | | | | | | | . 7 | 1. 0 | 45 | 80 |
| Colbert silty clay loam, 2 to 6 percent slopes, severely eroded | IVe–448 | 10 | 25 | 150 | 300 | | 15 | | 15 | . 8 | 1. 5 | 50 | 90 |
| Colbert silty clay loam, 6 to 10 percent slopes, severely eroded | VIe–48 | | | | | | | | | . 5 | 1. 0 | 40 | 80 |
| Cuthbert fine sandy loam, 6 to 10 percent slopes | VIe–19 | | | | | | | | | 1. 0 | 1. 7 | 50 | 90 |
| Cuthbert fine sandy loam, 10 to 15 percent slopes | VIe–19 | | | | | | | | | 1. 0 | 1. 5 | 40 | 80 |
| Cuthbert sandy clay loam, 6 to 10 percent slopes, severely eroded | VIIe–19 | | | | | | | | | . 8 | 1. 5 | 40 | 80 |
| Cuthbert sandy clay loam, 10 to 25 percent slopes, severely eroded | VIIe–19 | | | | | | | | | | | 30 | 70 |
| Cuthbert and Ruston soils, 10 to 15 percent slopes | VIe–19 | | | | | | | | | | | 30 | 70 |
| Cuthbert and Ruston soils, 15 to 25 percent slopes | VIIe–19 | | | | | | | | | | | | |
| Decatur silt loam, 2 to 6 percent slopes, eroded | IIe–41 | 40 | 65 | 500 | 900 | 20 | 30 | 20 | 30 | 2. 0 | 3. 0 | 120 | 200 |
| Decatur silty clay loam, 2 to 6 percent slopes, severely eroded | IIIe–441 | 30 | 45 | 400 | 750 | 10 | 20 | 10 | 20 | 1. 2 | 2. 5 | 80 | 180 |
| Decatur silty clay loam, 6 to 10 percent slopes, severely eroded | IVe–441 | 25 | 40 | 350 | 600 | 10 | 20 | 10 | 20 | 1. 2 | 2. 5 | 70 | 140 |
| Decatur silty clay loam, 10 to 15 percent slopes, severely eroded | VIe–441 | | | | | | | | | 1. 0 | 2. 0 | 60 | 100 |
| Dowellton silty clay, 0 to 2 | | | | | | | | | | | | | |

TABLE 1.—*Estimated average yields per acre of the principal crops under two levels of management*—Continued

| Soil | Capability unit | Corn | | Cotton (lint) | | Wheat | | Soybeans | | Sericea lespedeza | | Pasture | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | A | B | A | B | A | B | A | B | A | B |
| | | *Bu.* | *Bu.* | *Lbs.* | *Lbs.* | *Bu.* | *Bu.* | *Bu.* | *Bu.* | *Tons* | *Tons* | *Cow-acre-days* [1] | *Cow-acre-days* [1] |
| Guin gravelly sandy loam, 10 to 15 percent slopes, eroded | VIs–11 | | | | | | | | | 1. 0 | 1. 5 | 60 | 100 |
| Guin gravelly sandy loam, 15 to 40 percent slopes | VIIs–11 | | | | | | | | | | | 40 | 60 |
| Gullied land | VIIe–441 | | | | | | | | | . 5 | 1. 0 | 30 | 70 |
| Hollywood silty clay | IIIw–43 | 30 | 60 | | | 15 | 30 | 20 | 25 | | | 110 | 200 |
| Hollywood silty clay, shallow | VIs–43 | | | | | | | | | | | 50 | 80 |
| Huntington silt loam, local alluvium | I–43 | 50 | 95 | 500 | 900 | 20 | 30 | 20 | 35 | 2. 0 | 3. 2 | 140 | 225 |
| Iuka fine sandy loam | IIw–12 | 40 | 80 | 250 | 600 | 20 | 30 | 20 | 35 | 2. 0 | 3. 0 | 120 | 200 |
| Iuka fine sandy loam, local alluvium | IIw–12 | 40 | 80 | 400 | 600 | 20 | 30 | 20 | 35 | 2. 0 | 3. 0 | 120 | 200 |
| Lindside silt loam | IIw–41 | 45 | 90 | 300 | 600 | 20 | 30 | 20 | 35 | 2. 0 | 3. 0 | 140 | 225 |
| Lindside silt loam, local alluvium | IIw–41 | 45 | 90 | 450 | 800 | 20 | 30 | 20 | 35 | 2. 0 | 3. 0 | 140 | 225 |
| Linker fine sandy loam, 2 to 6 percent slopes, eroded | IIe–12 | 30 | 70 | 425 | 800 | 15 | 30 | 15 | 30 | 2. 0 | 3. 0 | 90 | 170 |
| Linker fine sandy loam, 6 to 10 percent slopes | IIIe–12 | 30 | 60 | 400 | 700 | 15 | 25 | 15 | 25 | 2. 0 | 2. 7 | 80 | 160 |
| Linker fine sandy loam, 6 to 10 percent slopes, eroded | IIIe–12 | 25 | 60 | 400 | 700 | 15 | 25 | 15 | 25 | 2. 0 | 2. 7 | 80 | 160 |
| Linker fine sandy loam, 10 to 15 percent slopes, eroded | IVe–11 | 20 | 50 | 350 | 500 | 12 | 20 | 12 | 20 | 1. 5 | 2. 0 | 60 | 135 |
| Melvin silt loam | IIIw–41 | 30 | 55 | | | | | 15 | 25 | | | 110 | 220 |
| Mine pits and dumps | VIIs–48 | | | | | | | | | | | | |
| Ochlockonee fine sandy loam | IIw–12 | 45 | 90 | 400 | 700 | 15 | 25 | 20 | 35 | 2. 5 | 3. 2 | 130 | 225 |
| Ora fine sandy loam, 2 to 6 percent slopes, eroded | IIe–15 | 30 | 45 | 300 | 500 | 15 | 25 | 15 | 20 | 2. 0 | 2. 5 | 75 | 130 |
| Ora fine sandy loam, 6 to 10 percent slopes | IIIe–15 | 25 | 40 | 275 | 400 | 12 | 18 | 13 | 17 | 1. 5 | 2. 5 | 65 | 120 |
| Ora fine sandy loam, 6 to 10 percent slopes, eroded | IIIe–15 | 25 | 40 | 275 | 400 | 12 | 18 | 13 | 17 | 1. 5 | 2. 5 | 65 | 120 |
| Ora fine sandy loam, heavy substratum, 2 to 6 percent slopes, eroded | IIe–15 | 30 | 45 | 300 | 500 | 15 | 25 | 15 | 20 | 2. 0 | 2. 5 | 75 | 130 |
| Prentiss fine sandy loam, 0 to 2 percent slopes | IIw–15 | 27 | 50 | 300 | 400 | 18 | 25 | 15 | 25 | 2. 0 | 2. 5 | 80 | 130 |
| Prentiss fine sandy loam, 2 to 6 percent slopes | IIe–15 | 25 | 45 | 300 | 500 | 15 | 25 | 15 | 25 | 2. 0 | 2. 5 | 75 | 130 |
| Ramsey fine sandy loam, 10 to 15 percent slopes | VIe–49 | | | | | | | | | | | 35 | 100 |
| Rock land, limestone | VIIs–48 | | | | | | | | | | | | |
| Rock land, sandstone | VIIs–48 | | | | | | | | | | | | |
| Ruston fine sandy loam, 2 to 6 percent slopes, eroded | IIe–12 | 35 | 60 | 450 | 650 | 15 | 25 | 15 | 25 | 1. 8 | 3. 2 | 90 | 170 |
| Ruston fine sandy loam, 6 to 10 percent slopes | IIIe–12 | 30 | 50 | 350 | 500 | 15 | 25 | 15 | 25 | 1. 5 | 3. 0 | 80 | 160 |
| Ruston fine sandy loam, 6 to 10 percent slopes, eroded | IIIe–12 | 30 | 50 | 350 | 500 | 15 | 25 | 15 | 25 | 1. 5 | 3. 0 | 80 | 160 |
| Ruston fine sandy loam, 6 to 10 percent slopes, severely eroded | IVe–11 | 25 | 40 | 300 | 500 | 10 | 20 | 10 | 15 | 1. 2 | 2. 5 | 70 | 120 |
| Ruston fine sandy loam, 10 to 15 percent slopes, eroded | IVe–11 | 25 | 35 | 250 | 400 | 10 | 15 | 10 | 15 | 1. 2 | 2. 5 | 80 | 140 |
| Ruston fine sandy loam, 10 to 15 percent slopes, severely eroded | VIe–111 | | | | | | | | | 1. 0 | 1. 5 | 60 | 100 |
| Saffell gravelly fine sandy loam, 2 to 6 percent slopes | IIe–12 | 30 | 55 | 400 | 600 | 15 | 25 | 15 | 25 | 1. 8 | 3. 2 | 80 | 160 |
| Saffell gravelly fine sandy loam, 6 to 10 percent slopes | IIIe–12 | 25 | 45 | 300 | 450 | 12 | 20 | 12 | 20 | 1. 5 | 3. 0 | 70 | 150 |
| Saffell gravelly fine sandy loam, 6 to 10 percent slopes, eroded | IIIe–12 | 25 | 45 | 300 | 450 | 12 | 20 | 12 | 20 | 1. 5 | 3. 0 | 70 | 150 |
| Savannah loam, 6 to 10 percent slopes, severely eroded | IVe–115 | 15 | 30 | 200 | 300 | 8 | 15 | 8 | 15 | 1. 0 | 1. 8 | 50 | 100 |
| Savannah very fine sandy loam, 0 to 2 percent slopes | IIw–15 | 30 | 50 | 350 | 450 | 18 | 25 | 15 | 25 | 2. 0 | 2. 5 | 80 | 130 |
| Savannah very fine sandy loam, 2 to 6 percent slopes | IIe–15 | 30 | 45 | 300 | 500 | 15 | 25 | 15 | 20 | 2. 0 | 2. 5 | 75 | 130 |

See footnote at end of table.

TABLE 1.—*Estimated average yields per acre of the principal crops under two levels of management*—Continued

| Soil | Capability unit | Corn | | Cotton (lint) | | Wheat | | Soybeans | | Sericea lespedeza | | Pasture | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | A | B | A | B | A | B | A | B | A | B |
| | | *Bu.* | *Bu.* | *Lbs.* | *Lbs.* | *Bu.* | *Bu.* | *Bu.* | *Bu.* | *Tons* | *Tons* | *Cow-acre-days* [1] | *Cow-acre-days* [1] |
| Savannah very fine sandy loam, 2 to 6 percent slopes, eroded | IIe–15 | 30 | 45 | 300 | 500 | 15 | 25 | 15 | 20 | 2. 0 | 2. 5 | 75 | 130 |
| Savannah very fine sandy loam, 6 to 10 percent slopes | IIIe–15 | 25 | 40 | 275 | 400 | 12 | 18 | 13 | 17 | 1. 5 | 2. 5 | 65 | 120 |
| Savannah very fine sandy loam, 6 to 10 percent slopes, eroded | IIIe–15 | 25 | 40 | 275 | 400 | 12 | 18 | 13 | 17 | 1. 5 | 2. 5 | 65 | 120 |
| Slickens | VIIs–48 | | | | | | | | | | | | 60 |
| Talbott silt loam, 2 to 6 percent slopes, eroded | IIIe–46 | 20 | 40 | 300 | 500 | 16 | 32 | 15 | 25 | 1. 5 | 2. 5 | 80 | 150 |
| Talbott silt loam, 6 to 10 percent slopes, eroded | IVe–48 | 15 | 30 | 200 | 350 | 13 | 18 | 12 | 15 | 1. 0 | 2. 0 | 60 | 110 |
| Talbott silty clay, 2 to 6 percent slopes, severely eroded | IVe–448 | 15 | 35 | 200 | 325 | 8 | 12 | 8 | 12 | . 5 | 1. 5 | 80 | 110 |
| Talbott silty clay, 6 to 10 percent slopes, severely eroded | VIe–48 | | | | | | | | | . 5 | 1. 0 | 40 | 75 |
| Tilden fine sandy loam, 2 to 6 percent slopes | IIe–15 | 25 | 45 | 300 | 500 | 15 | 25 | 15 | 25 | 2. 0 | 2. 5 | 75 | 130 |
| Tupelo silt loam, 0 to 2 percent slopes | IIIw–42 | 15 | 30 | 160 | 350 | 12 | 22 | 10 | 20 | 1. 0 | 2. 0 | 75 | 120 |

[1] Number of days that 1 cow can be grazed on 1 acre during 1 year without injury to the pasture.

## Use of Soils as Woodland[2]

The early settlers found a forest of deciduous hardwoods and scattered pines covering most of Franklin County. On the uplands were oak, hickory, chestnut, walnut, maple, gum, dogwood, redbud, and pine. Redcedar grew in the limestone valleys. The main trees on the bottom lands were ash, maple, gum, willow, oak, yellow-poplar, elm, and pine.

Practically all of the original trees have been removed, and the present forest consists of second- and third-growth stands of hardwoods, pines, and redcedar. All of the chestnut trees were killed by the chestnut blight in about 1930. Approximately 65 percent of the county is now forested, though most of the acreage is well suited to trees.

The growing interest in woodland management among farmers and foresters of the county is shown by the acreage

### *Woodland suitability groups*

To assist people who manage woodland, the soils of the county have been placed in 18 woodland suitability groups. Each group is made up of soils that are suitable for about the same kinds of trees, require about the same management, and have about the same potential productivity.

Listed in table 2, and later described in the text, are the 18 woodland suitability groups of the county. These groups are arranged, in both the table and the text, according to the kind of material from which the soils in the groups were formed. The first 8 groups consist of soils that formed in Coastal Plain sediments. The last 10 groups include soils derived from limestone, sandstone, and shale.

For each suitability group, the potential productivity of loblolly, shortleaf, and Virginia pines is expressed as a

TABLE 2.—*Woodland suitability groups of soils, their potential productivity,*

[Dashed lines indicate that tree is not

SOILS FROM COASTAL

| Group and description | Map symbols | Protential productivity (site index at 50 years) [1] | | |
|---|---|---|---|---|
| | | Loblolly pine | Shortleaf pine | Virginia pine |
| Group 1: Deep, well-drained to poorly drained soils on flood plains and in swales. | Bb; Is, Iu; Oc | 79 | | |
| Group 2A: Moderately deep and deep, well drained and moderately well drained soils on uplands and stream terraces. | CaA, CaB; GrB2; PrA; SnA | 57 to 67 | 47 to 58 | 52 to 64 |
| Group 2B: Deep, well-drained, sloping soils on uplands | GrB3, GrC3; RuB2, RuC, RuC2; SaB, SaC, SaC2. | 57 to 67 | 47 to 58 | 52 to 64 |
| Group 2C: Moderately deep, moderately well drained, sloping soils that are on uplands and stream terraces and have a firm subsoil. | CsC; OrB2, OrC, OrC2, OsB2; PrB; SnB, SnB2, SnC, SnC2; TdB. | 57 to 67 | 47 to 58 | 52 to 64 |
| Group 2D: Strongly sloping and moderately steep, moderately deep and deep soils that are moderately well drained and well drained. | CsD, CtC3, CuD; GrD3; RuC3, RuD2, RuD3; ShC3. | 57 to 67 | 47 to 58 | 52 to 64 |
| Group 2E: Steep, moderately deep and deep soils that are well drained and moderately well drained. | CtE3, CuE | 57 to 67 | 47 to 58 | 52 to 64 |
| Group 2F: Steep, gravelly soils | GuD2, GuF | 57 to 67 | 47 to 58 | 52 to 64 |
| Group 3 Miscellaneous land types that are limited in use | Gw; Mp; Ss | [2] | [2] | [2] |

SOILS FROM LIMESTONE,

| | | | | |
|---|---|---|---|---|
| Group 1A: Moderately deep, well drained and moderately well drained soils on stream terraces. | CmB2, CmC2; CnB | 82 | | |
| Group 1B: Deep, well-drained to poorly drained soils on flood plains and swales. | Hu; Ld, Le; Me | 82 | | |
| Group 2: Moderately deep, sloping soils on upland plateaus | AbB2, AbC, AbC2 | 72 to 86 | 66 to 72 | [2] |
| Group 3A: Nearly level to moderately steep, shallow to deep soils that are well drained to poorly drained. | AsD; CoA, CoB2, CrB3; DaB2; DoA; LkB2, LkC, LkC2, LkD2; TaB2, TaC2, TbB3. | 60 to 76 | 53 to 71 | 47 to 85 |
| Group 3B: Mostly strongly sloping and moderately steep, moderately deep and deep soils that are well drained to somewhat poorly drained. | CoC2, CoD2, CrC3; DcB3, DcC3, DcD3; TbC3. | 60 to 76 | 53 to 71 | 47 to 85 |
| Group 3C: Somewhat poorly drained soils on stream terraces | TuA | 60 to 76 | 53 to 71 | 47 to 85 |

See footnotes at end of table.

*and ratings for major limitations and hazards affecting management*

generally suited to the soils in the group]

PLAIN SEDIMENTS

| Hazards and limitations | | | | | Remarks |
|---|---|---|---|---|---|
| Seedling mortality | Plant competition | Equipment limitations | Erosion hazard | Windthrow hazard | |
| Severe to slight | Severe | Severe | Slight | Slight | |
| Slight | Moderate | Slight | Slight | Slight or moderate | Shortleaf pine is affected by littleleaf disease. |
| Slight | Moderate | Slight | Moderate | Slight | Shortleaf pine is affected by littleleaf disease. |
| Slight | Moderate | Slight | Moderate | Moderate | Shortleaf pine is affected by littleleaf disease. |
| Slight | Moderate | Slight or moderate | Severe | Slight or moderate | Shortleaf pine is affected by littleleaf disease. |
| Slight | Moderate | Moderate or severe. | Moderate or severe. | Moderate or slight | Shortleaf pine is affected by littleleaf disease. |
| Moderate | Slight | Slight to severe | Moderate | Slight | Shortleaf pine is affected by littleleaf disease. |
| Slight to severe | Slight | Severe | Severe to slight | Slight | Characteristics vary so widely that each site should be examined carefully to determine its suitability for trees. |

SANDSTONE, AND SHALE

| | | | | | |
|---|---|---|---|---|---|
| Slight | Moderate | Moderate | Slight | Moderate | |
| Slight to severe | Severe | Severe | Slight | Slight | |
| Slight | Moderate | Slight or moderate | Moderate or severe. | Moderate | Shortleaf pine is affected by littleleaf disease. |
| Slight | Moderate | Slight or moderate | Moderate or severe. | Moderate | Shortleaf pine is affected by littleleaf disease. |
| Slight | Moderate | Slight | Severe | Moderate | Shortleaf pine is affected by littleleaf disease. |
| Moderate | Moderate | Moderate | Slight | Moderate | Shortleaf pine is affected by littleleaf disease. |

TABLE 2.—*Woodland suitability groups of soils, their potential productivity,*

SOILS FROM LIMESTONE

| Group and description | Map symbols | Protential productivity (site index at 50 years) [1] | | |
|---|---|---|---|---|
| | | Loblolly pine | Shortleaf pine | Virginia pine |
| Group 3D:<br>Moderately steep, shallow or very shallow soils that are excessively drained. | RaD | 60 to 76 | 53 to 71 | 47 to 85 |
| Group 4:<br>Nearly level, dark-colored soils that are somewhat poorly drained. | Du; Ho, Hs | | | |
| Group 5:<br>Land that is limited in use because of outcrops, boulders, and fragments of sandstone. | Rs | (2) | (2) | (2) |
| Group 6:<br>Land that is limited in use because of outcrops, boulders, and fragments of limestone. | Ro | | | |

[1] Average height of dominant trees in stand at 50 years of age.

Seedling mortality refers to the mortality of naturally occurring or planted tree seedlings as influenced by the kinds of soil or topography when plant competition is not a limiting factor. The rating is slight if mortality is expected to be between 0 and 25 percent; moderate if between 25 and 50 percent; and severe if more than 50 percent. If seedling mortality is severe, adequate restocking will require much replanting, special seedbed preparation, and superior planting methods.

Plant competition, or brush encroachment, is the invasion or growth of undesirable plants when openings are made in the canopy. Competition is slight when competing plants do not prevent the natural regeneration or the early growth of desirable species or do not interfere important. It is moderate if some attention must be given to prevent unnecessary soil erosion. The erosion hazard is severe if intensive treatment and the operation of specialized equipment must be planned to minimize soil erosion.

Windthrow hazard is the danger of trees being blown over by the wind. It varies according to shallowness, stoniness, droughtiness, wetness, and other soil characteristics; kinds of trees; and thinning, cutting, leaving protective borders, and other forestry practices used to minimize tree losses. Windthrow hazard is slight if normally no trees are blown down by the wind. It is moderate if some trees are expected to blow down when the soil is excessively wet and the wind is high. Wind

[redacted]

SANDSTONE, AND SHALE—Continued

| Hazards and limitations | | | | | Remarks |
|---|---|---|---|---|---|
| Seedling mortality | Plant competition | Equipment limitations | Erosion hazard | Windthrow hazard | |
| Moderate | Moderate | Severe | Severe | Moderate | Shortleaf pine is affected by littleleaf disease. |
| Slight to severe | Moderate | Severe | Slight | Slight to severe | Well suited to redcedar. |
| Slight to severe | Moderate | Severe | Moderate or severe. | Moderate | Characteristics vary so widely that each site should be examined to |

Prentiss fine sandy loam, 2 to 6 percent slopes.
Savannah very fine sandy loam, 2 to 6 percent slopes.
Savannah very fine sandy loam, 2 to 6 percent slopes, eroded.
Savannah very fine sandy loam, 6 to 10 percent slopes.
Savannah very fine sandy loam, 6 to 10 percent slopes, eroded.
Tilden fine sandy loam, 2 to 6 percent slopes.

All of these soils have a fragipan, 18 to 30 inches deep, except the Cuthbert soil, which has a subsoil of heavy clay. Permeability is moderate above the fragipan or the firm subsoil and is slow in it. The available moisture capacity is low to moderate.

The commercial pines best suited to these soils, in the order of priority, are loblolly pine, shortleaf pine, and Virginia pine. Also well suited but less valuable are a number of commercial hardwoods, including red and white oaks, sweetgum, blackgum, maple, and hickory.

Seedling mortality and limitations to the use of equipment are slight. Plant competition and the hazards of erosion and windthrow are moderate.

#### WOODLAND SUITABILITY GROUP 2D

This group consists of moderately deep and deep, slightly eroded to severely eroded soils that occur on uplands of the Coastal Plain and are moderately well

but it is moderate to rapid in the Ruston soil. The available moisture capacity is low in the Cuthbert soils and moderate in the Ruston soil.

The best suited commercial pines, in the order of their priority, are loblolly pine, shortleaf pine, and Virginia pine. Well-suited hardwoods are red and white oaks, hickory, yellow-poplar, and sweetgum. The pines are more valuable commercially than the hardwoods.

Competition from undesirable plants is moderate on these soils. If plant competition is controlled, seedling mortality is slight. Limitations to the use of equipment are moderate during dry periods and are severe after prolonged rains. The erosion hazard is moderate on the Ruston soil and is severe on the Cuthbert soils. The hazard of windthrow is only slight on the deeper Ruston soil but is moderate on the shallower Cuthbert soils.

#### WOODLAND SUITABILITY GROUP 2F

In this group are gravelly soils on slopes of 10 to 40 percent. These soils are rapid in permeability and generally are very low in available moisture capacity. The soils are—

Guin gravelly sandy loam, 10 to 15 percent slopes, eroded

ability is slow, and the available moisture capacity is moderate to low. The soils are—

Cane loam, 2 to 6 percent slopes, eroded.
Cane loam, 6 to 10 percent slopes, eroded.
Captina silt loam, 2 to 6 percent slopes.

The most suitable commercial pine for these soils is loblolly pine. Shortleaf and Virginia pines do not occur in many places. Suitable commercial hardwoods are red and white oaks, sweetgum, maple, and yellow-poplar.

As a rule, seedling mortality is slight because the soils in this group generally have a favorable supply of moisture. Plant competition is only moderate, however, because fertility is generally low. The hazard of erosion is slight, and the limitations to the use of equipment are moderate. Because of the fragipan in these soils, windthrow is a moderate hazard.

#### WOODLAND SUITABILITY GROUP 1B

In this group are deep, friable, fine-textured soils that are well drained to poorly drained. Slopes range from 0 to 2 percent. These soils are—

Huntington silt loam, local alluvium.
Lindside silt loam.
Lindside silt loam, local alluvium.
Melvin silt loam.

The local alluvium phases of Huntington and Lindside soils are in swales, in upland depressions, and at the heads of and along narrow drainageways. The other soils are on first bottoms and are subject to occasional or frequent flooding. Permeability is moderate, and the available moisture capacity is moderate to high.

The commercial pine best suited to these soils is loblolly pine. Shortleaf and Virginia pines do not grow in many places. Well-suited commercial hardwoods are sweetgum, yellow-poplar, red and white oaks, beech, and hickory.

Seedling mortality is slight on the local alluvium soils because the moisture supply is generally good. On the soils that are flooded at times, seedling mortality is severe. Since all the soils have a favorable moisture content, com-

clayey, the erosion hazard is moderate to severe. The windthrow hazard is moderate because the growth of tree roots has been restricted by the moderately deep root zone.

#### WOODLAND SUITABILITY GROUP 3A

In this group are shallow to deep, well-drained to poorly drained soils that developed in material derived from limestone, sandstone, and shale. These soils are on slopes of 0 to 15 percent. They are moderate to slow in permeability. The soils are—

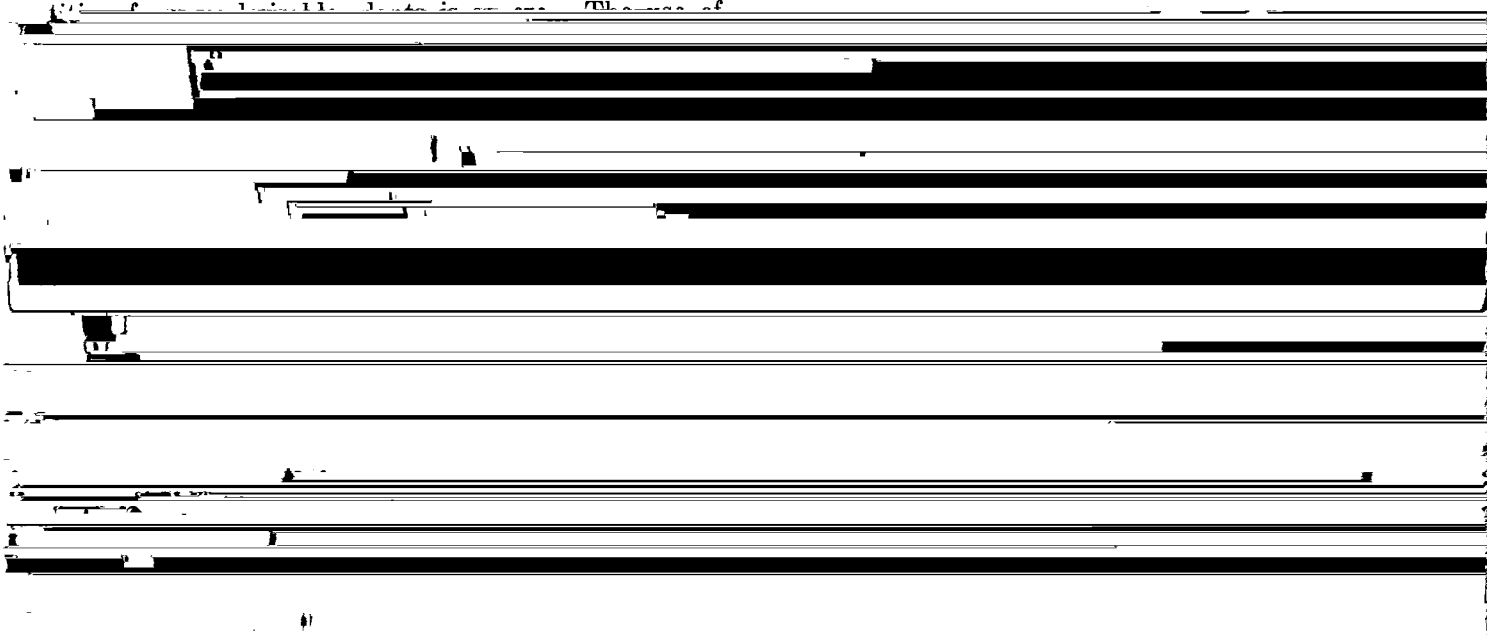
Albertville fine sandy loam, shallow, 10 to 15 percent slopes.
Colbert silt loam, 0 to 2 percent slopes.
Colbert silt loam, 2 to 6 percent slopes, eroded.
Colbert silty clay loam, 2 to 6 percent slopes, severely eroded.
Decatur silt loam, 2 to 6 percent slopes, eroded.
Dowellton silty clay, 0 to 2 percent slopes.
Linker fine sandy loam, 2 to 6 percent slopes, eroded.
Linker fine sandy loam, 6 to 10 percent slopes.
Linker fine sandy loam, 6 to 10 percent slopes, eroded.
Linker fine sandy loam, 10 to 15 percent slopes, eroded.
Talbott silt loam, 2 to 6 percent slopes, eroded.
Talbott silt loam, 6 to 10 percent slopes, eroded.
Talbott silty clay, 2 to 6 percent slopes, severely eroded.

The available moisture capacity ranges from low in the shallow Albertville, Colbert, and Dowellton soils to moderate in the Decatur, Linker, and Talbott soils.

The most suitable commercial pines, in the order of priority, are loblolly pine, shortleaf pine, and Virginia pine. Hardwoods that are suitable but less valuable commercially are yellow-poplar, white and red oaks, hickory, blackgum, and sweetgum.

Seedling mortality is slight on these soils because the supply of moisture is generally favorable. As a rule, however, the soils are low in fertility, and plant competition is only moderate. Limitations to the use of equipment are slight or moderate. The hazard of further erosion is moderate on most of the soils, but it is severe on the Albertville soil because of shallowness and strong slopes. All of the soils are moderately susceptible to windthrow.

#### WOODLAND SUITABILITY GROUP 3B



WOODLAND SUITABILITY GROUP 3C

Tupelo silt loam, 0 to 2 percent slopes, is the only soil in this group. This soil is on stream terraces in the limestone valleys and is moderately deep and somewhat poorly drained. It is slow to very slow in permeability and is low in available moisture capacity.

The most suitable commercial pines, in order of priority, are loblolly pine, shortleaf pine, and Virginia pine. Commercial hardwoods that are suitable but less important than the pines are blackgum, sweetgum, red and white oaks, hickory, and maple.

Because the moisture supply in this soil is inadequate at times, seedling mortality is moderate. Plant competition is moderate because of low fertility. Limitations to the use of equipment and the hazard of windthrow are moderate. The erosion hazard is slight.

WOODLAND SUITABILITY GROUP 3D

The use of equipment is severely restricted, and erosion is a moderate or severe hazard.

### *Management of woodland in pine*

The size of trees and the density of a stand have much to do with the management needed on woodland. Suggested in the following paragraphs are practices for managing pine in stands of the seedling, the post or pulpwood, and the sawtimber size classes.

*Seedlings.*—Well-stocked and understocked stands of seedlings should be protected by firebreaks and should not be grazed. Stands can be improved by removing undesirable trees and by planting seedlings in understocked areas.

*Posts and pulpwood.*—Firebreaks should be constructed to protect well-stocked and understocked stands of trees at post and pulpwood size. Grazing on these stands should be regulated and undesirable trees removed. The

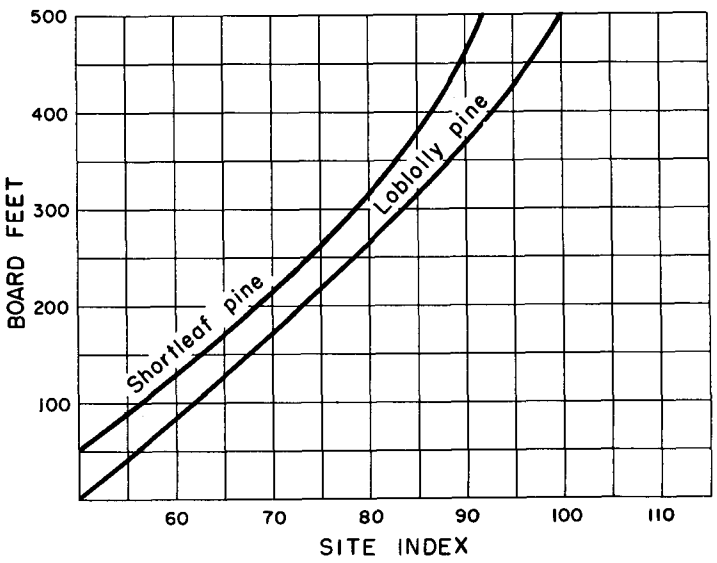



*Figure 9.*—**Average yearly growth in board feet per acre for second-growth shortleaf pine and loblolly pine, at 60 years of age, in well-stocked, unmanaged stands. (Adapted from United States Department of Agriculture Miscellaneous Publication No. 50 (*12*).)**

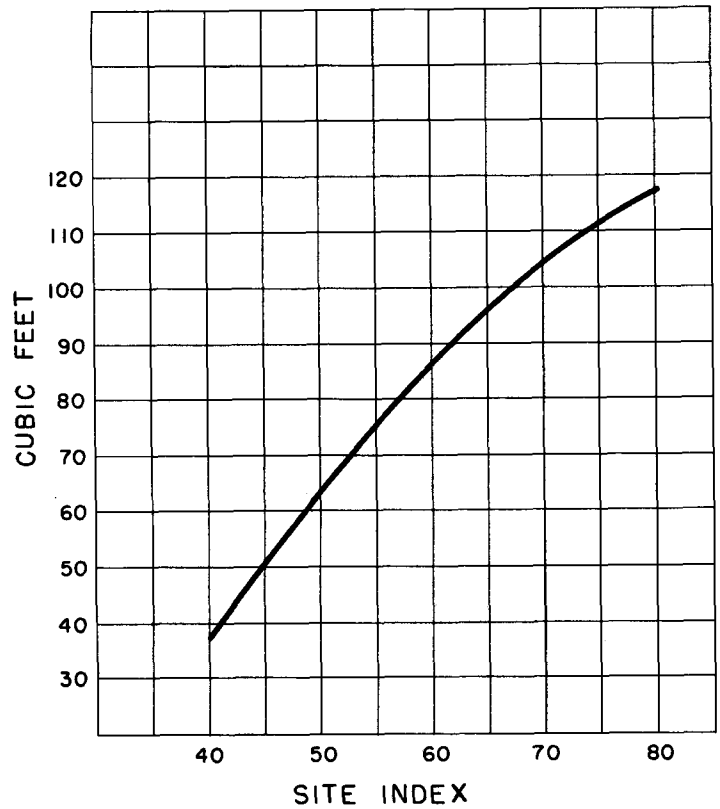



*Figure 10.*—**Average yearly growth in cubic feet per acre for well-stocked, unmanaged stands of Virginia pine. (Interpreted from North Carolina Agricultural Experiment Station Technical Bulletin No. 100 (*7*).)**

crops, including cotton, corn, small grain, hay, and pasture. The rest is in small, scattered stands of young pines and second-growth hardwoods. The most common game are bobwhite, mourning dove, and rabbit.

The ridgetops are favorable for bobwhite because the farms are generally small and several kinds of crops are grown in fields that are interspersed with areas of cover. Many small fields planted to corn are close to wooded cover, and this combination of food and cover is well suited to bobwhite. These birds can be increased in number throughout the ridgetops by using practices that improve habitats.

In pasture areas, establish strips of annual lespedeza along brushy fence rows or next to woodlots or brier thickets. Prepare strips for planting by lightly disking the soil late in winter or early in spring. If grazing is reduced late in summer so that about 4 inches of stubble remains, an acre of such plantings normally produces enough seed to feed a covey of bobwhite during the winter. Additional food can be provided on idle land by disking the soil lightly in winter, a practice that encourages the growth of volunteer stands of beggarweed, partridgepea, or annual lespedeza.

Plant lespedeza bicolor, an excellent food plant for bobwhite, in quarter-acre plots that are spaced not more than one-quarter mile apart. Fence each plot to protect the planting from livestock.

Plant reseeding cowpeas in corn or following small grain. If planted in the outer two or three rows of corn, cowpeas generally reseed each year after the last cultivation of the corn.

Little needs to be done to increase the number of rabbits, since fields in winter pasture and the clumps of trees nearby generally provide ample food and cover during winter, the critical season for rabbits.

*Steep slopes.*—More than half of the county is made up of steep soils and miscellaneous land types. Dominant in these areas are the Guin and Cuthbert soils; Rock land, sandstone; and Rock land, limestone. The slopes are generally too steep for cultivation, and only a small acreage is cropped or pastured. They are mostly in small, second-growth hardwoods. A few large trees grow in coves, on benches, and on other more fertile sites. Among the most common trees are hickory, black walnut, oak, dogwood, beech, maple, and poplar. Shagbark hickory grows most commonly on Rock land, limestone, and generally indicates the presence of that land type.

Gray squirrel is the most widely hunted game animal on the steep slopes. Deer and turkey have been released by the Alabama Conservation Department in the Bankhead National Forest and in the Freedom Hills area. Under a program of good management and controlled hunting, deer and turkey are increasing and are extending their range.

Forests that are best for squirrels contain many individual trees of hickory, black walnut, and oak. Retaining trees of this kind that have a large crown helps to maintain a large number of squirrels. The number of nuts or acorns produced by different trees depends on the kind of tree and the size of the crown. Shagbark

adequate for estimating the characteristics of soil material in rolling or steep areas where deep cuts are made.

The data given in table 3 were obtained by mechanical

### *Engineering interpretations*

Table 5 shows estimates of the suitability of the soils

TABLE 3.—*Engineering test data*[1] *for soil samples*

| Soil name and location | Parent material | Alabama report | Depth | Horizon | Moisture density [2] | |
|---|---|---|---|---|---|---|
| | | | | | Maximum | |

*taken from 18 soil profiles, Franklin County, Ala.*

| Mechanical analysis[3] | | | | | | | | | | | | Liquid limit | Plasticity index | Classification | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percentage passing sieve— | | | | | | | | | | | Percentage smaller than 0.005 mm. | | | AASHO[4] | Unified[5] |
| 3 in. | 2 in. | 1½ in. | 1 in. | ¾ in. | ⅜ in. | No. 4 (4.7 mm.) | No. 10 (2.0 mm.) | No. 40 (0.42 mm.) | No. 60 (0.25 mm.) | No. 200 (0.74 mm.) | | | | | |
| | | | | 100 | 98 | 97 | 95 | 83 | 79 | 72 | 42 | 30 | 10 | A-4(7) | CL. |
| | | | | | 100 | 99 | 96 | 90 | 88 | 84 | 66 | 55 | 35 | A-7-6(19) | CH. |
| | | | | | 100 | 99 | 84 | 82 | 81 | 79 | 68 | 78 | 53 | A-7-6(20) | CH. |
| | | | 100 | 98 | 98 | 97 | 94 | 85 | 78 | 69 | 35 | 20 | 1 | A-4(7) | ML. |
| | | 100 | 99 | | | 96 | 92 | 86 | 82 | 77 | 54 | 39 | 20 | A-6(12) | CL. |
| | | | | | | 100 | 92 | 88 | 85 | 80 | 62 | 53 | 27 | A-7-6(17) | CH. |
| | | | | 100 | 99 | 98 | 95 | 88 | 77 | 63 | 41 | 29 | 14 | A-6(7) | CL. |
| | | | | | 100 | 99 | 97 | 92 | 84 | 76 | 60 | 51 | 33 | A-7-6(18) | MH. |
| | | | | | | | 100 | 96 | 93 | 88 | 75 | 78 | 56 | A-7-6(20) | CH. |
| | | | | 100 | 96 | 89 | 79 | 73 | 71 | 49 | 22 | 22 | 1 | A-4(3) | SM. |
| | | | | | | 100 | 98 | 96 | 96 | 84 | 59 | 52 | 30 | A-7-6(18) | CH. |
| | | | | | | | 100 | 99 | 99 | 80 | 58 | 52 | 30 | A-7-6(19) | CH. |
| | | 100 | 97 | 96 | 90 | 81 | 73 | 68 | 63 | 26 | 14 | 18 | 0 | A-2-4(0) | SM. |
| | | | | 100 | 99 | 95 | 92 | 89 | 87 | 65 | 56 | 46 | 24 | A-7-6(13) | CL. |
| | | | | 100 | 98 | 88 | 88 | 87 | 85 | 74 | 64 | 58 | 34 | A-7-6(19) | CH. |
| | | | 100 | 96 | 88 | 77 | 70 | 67 | 65 | 28 | 11 | 22 | 2 | A-2-4(0) | SM. |
| | | | | | | | 100 | 99 | 98 | 61 | 53 | 56 | 31 | A-7-6(15) | CH. |
| | | | | | 100 | 99 | 98 | 95 | 93 | 38 | 29 | 38 | 16 | A-6(2) | SC. |
| | | | | | 100 | 99 | 98 | 95 | 92 | 78 | 44 | 31 | 9 | A-4(8) | ML-CL. |
| | | | | | | | 100 | 97 | 95 | 89 | 71 | 58 | 36 | A-7-6(20) | CH. |
| | | | | | | 100 | 98 | 93 | 92 | 80 | 63 | 50 | 21 | A-7-6(14) | ML-CL. |
| | | | | | | 100 | 96 | 92 | 90 | 76 | 43 | 33 | 9 | A-4(8) | ML-CL. |
| | | | | | | 100 | 99 | 95 | 94 | 84 | 62 | 46 | 27 | A-7-6(16) | CL. |
| | | | | | | 100 | 99 | 94 | 93 | 85 | 71 | 62 | 36 | A-7-6(20) | CH. |
| | | | | | 100 | 97 | 94 | 87 | 77 | 62 | 34 | 27 | 9 | A-4(5) | CL. |
| | | | | | 100 | 99 | 96 | 91 | 83 | 74 | 62 | 55 | 33 | A-7-6(19) | CH. |
| | | | | 100 | 99 | 98 | 96 | 89 | 83 | 75 | 70 | 59 | 33 | A-7-6(20) | CH. |
| | | | 100 | 98 | 94 | 87 | 84 | 72 | 58 | 49 | 30 | 24 | 6 | A-4(3) | SM-SC. |
| | | 100 | 91 | 84 | 73 | 61 | 51 | 42 | 31 | 26 | 19 | 20 | 5 | A-2-4(0) | GM-GC. |
| | | 100 | 92 | 89 | 79 | 71 | 64 | 55 | 43 | 38 | 24 | 23 | 3 | A-4(1) | SM. |
| | 100 | 96 | 90 | 83 | 76 | 67 | 55 | 42 | 34 | 31 | 23 | 28 | 11 | A-2-6(0) | SC. |
| 100 | 97 | 96 | 91 | 88 | 72 | 62 | 54 | 48 | 36 | 27 | 15 | 18 | 3 | A-2-4(0) | GM. |
| | | 100 | 81 | 73 | 54 | 42 | 36 | 23 | 10 | 6 | 4 | [6]NP | [6]NP | A-1-a(0) | GP-GM. |
| | | | | | | 100 | 99 | 96 | 85 | 50 | 24 | 19 | 1 | A-4(3) | SM. |
| | | | | | | | 100 | 99 | 97 | 76 | 40 | 26 | 5 | A-4(8) | ML-CL. |
| | | | | | | | 100 | 98 | 65 | 13 | 5 | [6]NP | [6]NP | A-2-4(0) | SM. |
| | | | | | | 100 | 99 | 98 | 87 | 69 | 36 | 21 | 3 | A-4(7) | ML. |
| | | | | | | | | 100 | 91 | 18 | 8 | [6]NP | [6]NP | A-2-4(0) | SM. |
| | | | | | | | | 100 | 99 | 78 | 43 | 31 | 9 | A-4(8) | MC-CL. |
| | | | | | | | | 100 | 99 | 80 | 52 | 25 | 5 | A-4(8) | ML-CL. |
| | | | | | | | | 100 | 98 | 56 | 28 | 22 | 5 | A-4(4) | ML-CL. |
| | | | | | | | | 100 | 99 | 39 | 18 | 16 | 0 | A-4(1) | SM. |
| | | | | | | 100 | 99 | 91 | 79 | 72 | 40 | 26 | 7 | A-4(7) | ML-CL. |
| | | | | | | | 100 | 92 | 83 | 78 | 54 | 37 | 18 | A-6(11) | CL. |
| | | | | | 100 | 99 | 99 | 88 | 74 | 66 | 43 | 28 | 10 | A-4(6) | CL. |
| | | | | | 100 | 99 | 97 | 87 | 73 | 65 | 46 | 41 | 21 | A-7-6(11) | CL. |

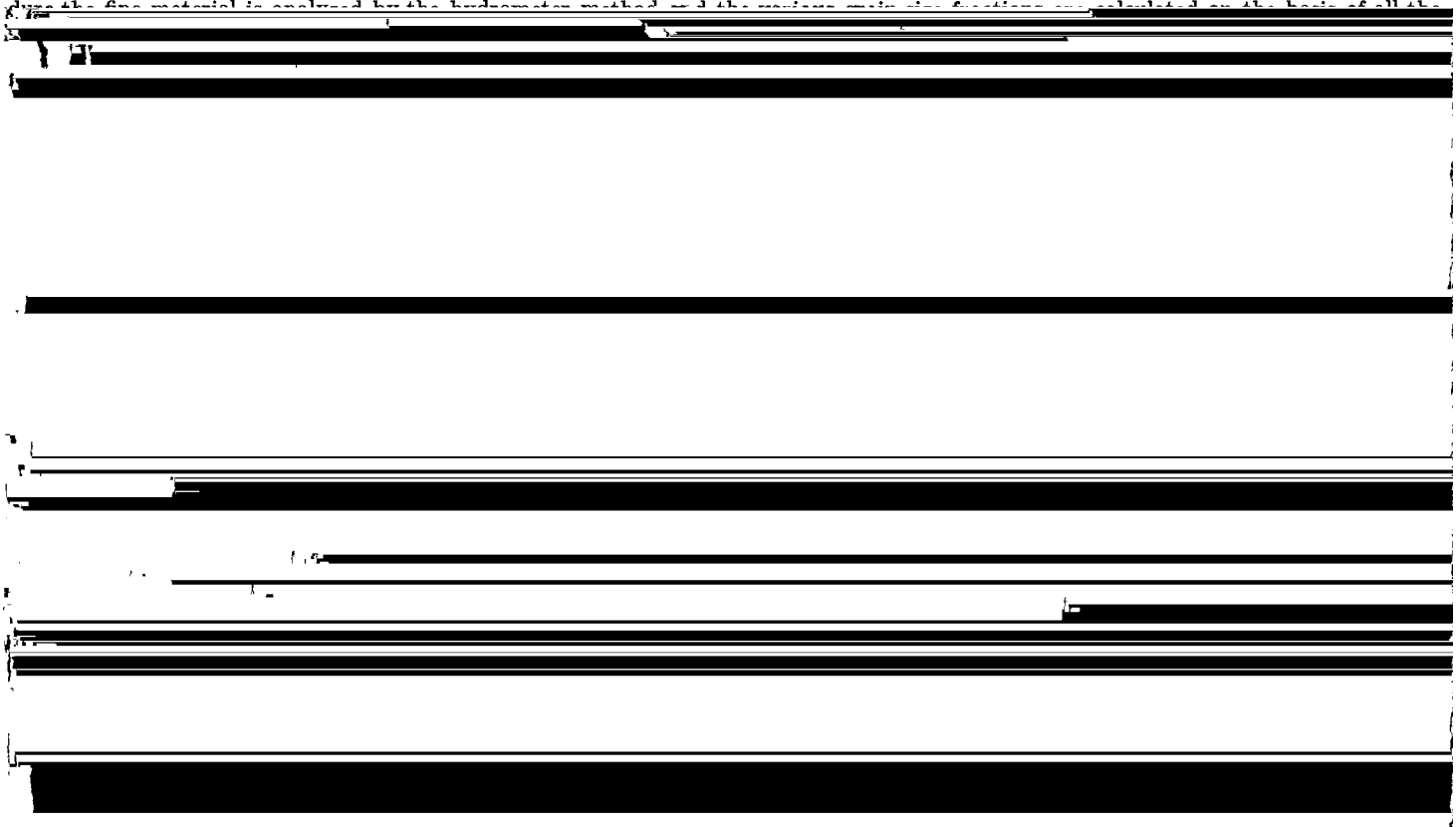
TABLE 3.—*Engineering test data*[1] *for soil samples*

| Soil name and location | Parent material | Alabama report No. | Depth | Horizon | Moisture density[2] | |
|---|---|---|---|---|---|---|
| | | | | | Maximum dry density | Optimum moisture |
| | | | *Inches* | | *Pounds per cubic foot* | *Percent* |
| NW¼NE¼ sec. 14, T. 8 S., R. 10 W. (Brown profile). | Coastal Plain sediments. | 4473 | 0–5 | Ap | 113 | 14 |
| | | 4467 | 7–22 | B2 | 110 | 17 |
| | | 4468 | 22–36 | B3m | 118 | 12 |
| | | 4437 | 36–72+ | C | 119 | 15 |
| NE¼SE¼ sec. 18, T. 7 S., R. 15 W. (No B1 horizon). | Coastal Plain sediments. | 4460 | 0–6 | Ap | 116 | 13 |
| | | 4459 | 6–18 | B2 | 104 | 18 |
| | | 4443 | 18–27 | B3m | 107 | 17 |
| | | 4474 | 27–72+ | C | 113 | 16 |

[1] Tests performed by the Alabama State Highway Department in accordance with standard procedures of the American Association of State Highway Officials (ASSHO).

[2] Based on method described in Moisture-Density Relations of Soils Using 5.5-lb. Rammer and 12-in. Drop, AASHO Designation T 99–57, Method A (*2*).

[3] Mechanical analyses according to the AASHO Designation T 88 (*2*). Results by this procedure frequently may differ somewhat from results that would have been obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO proce-



*taken from 18 soil profiles, Franklin County, Ala.*—Continued

| Mechanical analysis[3] | | | | | | | | | | | | | Classification | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percentage passing sieve— | | | | | | | | | | | Percentage smaller than 0.005 mm. | Liquid limit | Plasticity index | AASHO[4] | Unified[5] |
| 3 in. | 2 in. | 1¾ in | 1 in. | ½ in. | ⅜ in. | No. 4 (4.7 mm.) | No. 10 (2.0 mm.) | No. 40 (0.72 mm.) | No. 60 (0.25 mm.) | No. 200 (0.74 mm.) | | | | | |
| | | | | | | | 100 | 93 | 78 | 65 | 39 | 22 | 4 | A–4(6) | ML–CL. |
| | | | | | | | 100 | 92 | 82 | 71 | 46 | 34 | 15 | A–6(9) | CL. |
| | | | | | | | 100 | 88 | 74 | 60 | 39 | 29 | 12 | A–6(6) | CL. |
| | | | | | | 100 | 99 | 92 | 75 | 57 | 40 | 28 | 11 | A–6(5) | CL. |
| | | | | | | 100 | 99 | 90 | 82 | 68 | 26 | 20 | 3 | A–4(7) | ML. |
| | | | | | | | 100 | 96 | 93 | 87 | 56 | 31 | 9 | A–4(8) | ML–CL. |
| | | | | | 100 | 98 | 91 | 86 | 82 | 74 | 39 | 31 | 9 | A–4(8) | ML–CL. |
| | | | | | 100 | 99 | 97 | 92 | 86 | 75 | 49 | 35 | 14 | A–6(10) | CL. |

[4] Based on methods described in Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes, AASHO Designation: M 145–49 (*2*).

[5] Based on the Unified Soil Classification system. Technical Memorandum No. 3–357, v. 1, Waterways Experiment Station, Corps of Engineers. March 1953 (*14*).

[6] Nonplastic.

*their estimated physical properties*

undifferentiated soil groups, are given elsewhere in the table for the component soils]

| Classification—Continued | | Percentage passing sieve— | | | Permeability | Structure | Available water | Reaction | Dispersion | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| Unified | AASHO | No. 4 (4.7 mm.) | No. 10 (2.0 mm.) | No. 200 (0.074 mm.) | | | | | | |
| | | | | | *Inches per hour* | | *Inches per foot of depth* | *pH* | | |
| ML or CL | A–4 | 92–100 | 85–95 | 75–85 | 0. 8–1. 5 | Granular | 0. 7–1. 2 | 5. 1–5. 5 | High | Low. |
| MH | A–7 | 95–100 | 90–100 | 85–95 | 0. 4–1. 0 | Blocky | 0. 9–1. 7 | 4. 5–5. 0 | Moderate | Moderate. |
| MH | A–7 | 95–100 | 90–100 | 85–95 | 0. 2–0. 8 | Blocky | 0. 8–1. 5 | 4. 5–5. 0 | Moderate | Moderate or high. |
| ML or CL | A–4 | 92–100 | 80–100 | 70–80 | 0. 8–1. 5 | Granular | 0. 7–1. 2 | 5. 0–5. 5 | High | Low. |
| MH | A–7 | 90–100 | 85–100 | 85–95 | 0. 4–1. 0 | Blocky | 0. 9–1. 7 | 4. 5–5. 0 | Moderate | Moderate. |
| MH | A–7 | 85–95 | 80–90 | 75–85 | 0. 3–0. 8 | Blocky | 0. 8–1. 5 | 4. 5–5. 0 | Moderate | Moderate or high. |
| ML or CL | A–4 | 100 | 95–100 | 85–90 | 0. 8–1. 4 | Granular and blocky. | 0. 6–1. 0 | 5. 6–6. 0 | High | Low. |
| CL | A–4 or A–6. | 100 | 95–100 | 90–95 | 0. 4–0. 8 | Blocky | 0. 7–1. 1 | 5. 1–5. 5 | Moderate | Moderate. |

TABLE 4.—*Brief description of soils and*

| Map symbol | Soil | Depth to seasonally high water table | Depth to bedrock | Brief description of site and soil | Depth from surface (typical profile) | Classification |
|---|---|---|---|---|---|---|
| | | | | | | USDA texture |
| | | *Feet* | *Feet* | | *Inches* | |
| CaA | Cahaba fine sandy loam, 0 to 2 percent slopes. | 10+ | 10+ | About 1½ feet of fine sandy loam over 1 foot of fine sandy clay loam over 1½ feet of fine sandy loam that is underlain by loamy fine sand; formed on stream terraces in old alluvium washed from soils of the Coastal Plain. | 0–19 | Fine sandy loam. |
| CaB | Cahaba fine sandy loam, 2 to 6 percent slopes. | | | | 19–32 | Fine sandy clay loam. |
| | | | | | 32–50 | Fine sandy loam. |
| | | | | | 50–72 | Loamy fine sand. |
| CmB2 | Cane loam, 2 to 6 percent slopes, eroded. | 1½–2½ (perched | 6–10 | About ½ foot of loam over 1 foot of fine sandy clay loam or silty clay loam; fragipan of loam to silty clay loam at a depth of 21 inches; formed in old general alluvium derived from sandstone and shale. | 0–5 | Loam |
| CmC2 | Cane loam, 6 to 10 percent slopes, eroded. | | | | 5–21 | Silty clay loam. |
| | | | | | 21–54 | Silty clay loam. |
| CnB | Captina silt loam, 2 to 6 percent slopes. | 1½–2½ (perched) | 4–10 | About ½ foot of silt loam over 1½ feet of loam over 2 feet of silty clay; fragipan at a depth of 2 feet impedes drainage; formed in old alluvium derived from limestone and shale. | 0–8 | Silt loam |
| | | | | | 8–23 | Loam |
| | | | | | 23–54+ | Silty clay |
| CoA | Colbert silt loam, 0 to 2 percent slopes | 1½–10 | 1½–6 | About ½ foot of silt loam over 4½ feet of clay over limestone; plastic cl | 0–4 | Silt loam |

*their estimated physical properties*—Continued

| Classification—Continued | | Percentage passing sieve— | | | Permeability | Structure | Available water | Reaction | Dispersion | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| Unified | AASHO | No. 4 (4.7 mm.) | No. 10 (2.0 mm.) | No. 200 (0.074 mm.) | | | | | | |
| | | | | | *Inches per hour* | | *Inches per foot of depth* | *pH* | | |
| SC | A-4 | 100 | 100 | 35–45 | 1. 5–2. 5 | Granular and blocky. | 0. 8–1. 2 | 5. 1–5. 5 | High | Low. |
| ML or CL | A-4 | 100 | 100 | 75–85 | 1. 0–2. 0 | Blocky | 1. 0–1. 5 | 5. 1–5. 5 | Moderate | Low. |
| ML | A-4 | 100 | 100 | 70–80 | 1. 2–2. 2 | Blocky | 0. 8–1. 2 | 5. 1–5. 5 | Moderate | Low. |
| SM or SC | A-2 | 100 | 100 | 25–30 | 2. 5–5. 0 | Granular | 0. 8–1. 0 | 5. 1–5. 5 | High | Low. |
| ML or CL | A-4 | 90–100 | 85–98 | 55–65 | 1. 7–2. 2 | Granular | 1. 6–2. 0 | 5. 6–6. 0 | High | Low. |
| ML or CL | A-4 or A-6. | <100 | 90–100 | 60–70 | 0. 8–1. 0 | Blocky | 1. 8–2. 2 | 5. 1–5. 5 | Moderate | Low or moderate. |
| ML or CL | A-4 or A-6. | <100 | 85–100 | 55–70 | 0. 3–0. 6 | Blocky and massive. | 1. 0–1. 2 | 5. 1–5. 5 | Moderate | Low or moderate. |
| ML or CL | A-4 | 100 | 100 | 95–100 | 0. 8–1. 5 | Granular | 1. 4–1. 8 | 5. 6–6. 0 | High | Low. |
| CL | A-6 | 95–100 | 95–100 | 85–90 | 0. 3–1. 00 | Blocky | 1. 8–2. 0 | 5. 1–5. 5 | Moderate | Moderate. |
| MH | A-7 | 95–100 | 95–100 | 85–95 | 0. 2–0. 6 | Blocky | 1. 0–1. 2 | 5. 1–5. 5 | Moderate | Moderate or high. |
| CL | A-4 or A-6. | 95–100 | 95–100 | 65–75 | 0. 3–0. 6 | Crumb and blocky. | 1. 4–1. 6 | 5. 1–5. 5 | Moderate | Moderate. |
| CH | A-7 | 95–100 | 95–100 | 80–90 | 0. 0–0. 2 | Blocky | 1. 8–1. 0 | 5. 1–7. 0 | Low | High. |
| SM | A-4 | 85–95 | 75–85 | 45–50 | 0. 8–1. 5 | Granular | 0. 8–1. 5 | 5. 1–5. 5 | Moderate | Low. |
| MH or CH | A-7 | 100 | 95–100 | 80–90 | 0. 6–1. 0 | Blocky | 1. 0–1. 4 | 5. 1–5. 5 | Low | High. |
| MH or CH | A-7 | 100 | 95–100 | 75–85 | 0. 4–0. 8 | Blocky and massive. | 0. 8–1. 00 | 5. 1–5. 5 | Low | High. |
| ML or CL | A-4 | 95–100 | 90–100 | 75–85 | 0. 8–2. 0 | Granular | 1. 2–1. 7 | 5. 1–5. 5 | Moderate | Low. |
| CH | A-7 | 100 | 95–100 | 80–90 | 0. 8–2. 0 | Blocky | 1. 2–1. 7 | 5. 1–5. 5 | Moderate | High. |
| CH | A-7 | 95–100 | 75–85 | 65–75 | 0. 0–0. 2 | Blocky | 1. 0–1. 4 | 4. 5–5. 5 | Low | High. |

TABLE 4.—*Brief description of soils and*

| Map symbol | Soil | Depth to seasonally high water table | Depth to bedrock | Brief description of site and soil | Depth from surface (typical profile) | Classification |
|---|---|---|---|---|---|---|
| | | | | | | USDA texture |
| | | *Feet* | *Feet* | | *Inches* | |
| Du | Dunning silty clay. | 0–1 | 4–10 | About ½ foot of silty clay over 3 to 5 feet of clay; formed in alluvium washed | 0–8 | Silty clay----- |

*their estimated physical properties*—Continued

| Classification—Con. | | Percentage passing sieve— | | | Permeability | Structure | Available water | Reaction | Dispersion | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| Unified | AASHO | No. 4 (4.7 mm.) | No. 10 (2.0 mm.) | No. 200 (0.074 mm.) | | | | | | |
| | | | | | *Inches per hour* | | *Inches per foot of depth* | *pH* | | |
| CL | A–6 or A–7. | 100 | 95–100 | 90–95 | 0–0. 2 | Blocky | 1. 2–1. 6 | 5. 6–6. 0 | Low | Moderate. |
| MH or CH | A–7 | 100 | 95–100 | 95–100 | 0–0. 2 | Massive | 1. 2–1. 6 | 5. 6–7. 3 | Low | High. |
| SC | A–4 | 95–100 | 86–95 | 35–45 | 1. 2–4. 0 | Granular | 1. 0–1. 2 | 5. 1–5. 5 | Moderate | Low. |
| CL | A–6 | 98–100 | 85–95 | 55–75 | 2. 0–3. 0 | Blocky | 1. 0–1. 3 | 5. 1–5. 5 | Moderate | Moderate. |
| SC | A–4 | 95–100 | 85–95 | 40–50 | 2. 2– 3. 5 | Blocky | 1. 0–1. 2 | 4. 5–5. 5 | Moderate | Low. |
| SM | A–2 | 95–100 | 80–95 | 15–30 | 5. 0–10. 0 | Single grain | 0. 3–0. 5 | 4. 5–5. 0 | High | Low. |
| GM or GC | A–2 | 60–70 | 50–60 | 25–35 | 10+ | Single grain | 0. 2–0. 5 | 5. 1–5. 5 | High | Low. |
| CH | A–7 | 100 | 100 | 90–100 | 0. 2– 0. 6 | Granular and blocky. | 2. 0–2. 2 | 6. 1–6. 5 | Low | High. |
| CH | A–7 | 100 | 100 | 95–100 | 0. 2– 0. 4 | Blocky and massive. | 2. 0–2. 3 | 6. 6–7. 8 | Low | High. |
| CH | A–7 | 100 | 90–100 | 90–100 | 0. 2– 0. 6 | Blocky | 2. 0–2. 2 | 6. 1–6. 5 | Low | High. |
| CH | A–7 | 100 | 95–100 | 95–100 | 0. 2– 0. 4 | Blocky | 2. 0–2. 3 | 6. 6–7. 3 | Low | High. |
| ML or CL | A–4 or A–6. | 98–100 | 95–100 | 75–85 | 1. 5– 3. 0 | Granular | 2. 0–3. 0 | 5. 6–6. 0 | High | Low or moderate. |
| CL | A–6 | 98–100 | 95–100 | 80–90 | 1. 0– 2. 0 | Blocky | 2. 0–2. 5 | 5. 6–6. 0 | Moderate | Moderate. |
| SC | A–4 | 98–100 | 80–100 | 40–50 | 1. 5– 3. 0 | Granular | 1. 5–2. 5 | 5. 1–5. 5 | High | Low. |
| SC | A–4 | 100 | 80–95 | 45–50 | 2. 0– 4. 0 | Granular | 1. 5–2. 5 | 5. 1–5. 5 | High | Low. |
| ML or CL | A–6 | 100 | 85–95 | 75–85 | 1. 0– 2. 0 | Granular | 1. 8–2. 5 | 5. 1–5. 5 | High | Low. |
| ML or CL | A–6 | 100 | 95–100 | 70–85 | 1. 5– 3. 0 | Granular | 2. 0–3. 0 | 6. 1–6. 5 | High | Low or moderate. |
| CL | A–6 | 100 | 95–100 | 80–90 | 1. 0– 1. 5 | Blocky | 2. 0–2. 5 | 6. 6–7. 3 | Moderate | Moderate. |
| ML or CL | A–6 | 100 | 95–100 | 75–85 | 1. 5– 3. 0 | Granular | 2. 0–3. 0 | 5. 1–6. 5 | High | Low or moderate. |
| CL | A–6 | 100 | 95–100 | 85–90 | 1. 0– 1. 5 | Blocky | 2. 0–2. 5 | 5. 1–6. 5 | Moderate | Moderate. |
| ML or CL | A–4 | 98–100 | 85–95 | 50–60 | 1. 0– 1. 5 | Granular | 1. 5–2. 0 | 5. 1–5. 5 | High | Low. |
| CL or ML | A–4 or A–6. | 98–100 | 90–95 | 55–65 | 1. 0– 1. 8 | Blocky | 1. 7–2. 2 | 5. 1–5. 5 | High | Low. |
| ML or CL | A–4 | 100 | 95–100 | 70–80 | 0. 0– 0. 4 | Granular | 2. 5–3. 0 | 5. 1–5. 5 | Moderate | Low or moderate. |

TABLE 4.—*Brief description of soils and*

| | Depth | | | Depth | Classification |
|---|---|---|---|---|---|

*their estimated physical properties*—Continued

| Classification—Con. | | Percentage passing sieve— | | | Permeability | Structure | Available water | Reaction | Dispersion | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| Unified | AASHO | No. 4 (4.7 mm.) | No. 10 (2.0 mm.) | No. 200 (0.074 mm.) | | | | | | |
| | | | | | *Inches per hour* | | *Inches per foot of depth* | *pH* | | |
| SM | A–4 | 98–100 | 90–100 | 45–50 | 2. 0– 4. 0 | Granular | 1. 0–1. 5 | 5. 6–6. 0 | High | Low. |
| ML or CL | A–4 | 98–100 | 90–100 | 70–80 | 1. 5– 3. 0 | Granular | 1. 8–2. 5 | 5. 1–5. 5 | High | Low. |
| SM | A–2 | 98–100 | 90–100 | 10–20 | 2. 0– 6. 0 | Single grain | 0. 8–1. 0 | 4. 5–5. 5 | High | Low. |
| SM | A–4 | 95–100 | 95–100 | 45–50 | 0. 7– 1. 6 | Granular | 1. 2–1. 6 | 5. 1–5. 5 | High | Low. |

TABLE 4.—*Brief description of soils and*

| | | Depth to sea- | Depth | | Depth from | Classification |
|---|---|---|---|---|---|---|

*their estimated physical properties*—Continued

| Classification—Con. | | Percentage passing sieve— | | | Permeability | Structure | Available water | Reaction | Dispersion | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| Unified | AASHO | No. 4 (4.7 mm.) | No. 10 (2.0 mm.) | No. 200 (0.074 mm.) | | | | | | |
| | | | | | *Inches per hour* | | *Inches per foot of depth* | *pH* | | |
| | | | | | | Massive | | 5. 1–5. 5 | Low | High. |
| ML or CL | A–6 | 100 | 95–100 | 85–95 | 0. 3– 0. 8 | Granular | 1. 2–1. 4 | 5. 1–5. 5 | Moderate | Moderate. |
| MH | A–7 | 100 | 95–100 | 90–100 | 0. 2– 0. 5 | Blocky | | 4. 5–5. 5 | Low | High. |
| ML or SM | A–4 | 95–100 | 85–95 | 40–70 | 1. 8– 2. 2 | Granular | 1. 2–2. 0 | 5. 6–6. 0 | High | Low. |
| ML or CL | A–4 or A–6. | 95–100 | 95–100 | 55–75 | 0. 4– 1. 0 | Blocky | 1. 0–2. 2 | 5. 6–6. 0 | High | Low. |
| ML or CL | A–4 | 95–100 | 95–100 | 80–90 | 0. 4– 0. 8 | Granular | 1. 4–1. 6 | 5. 6–6. 0 | High | Low. |
| CH or MH | A–7 | 98–100 | 95–100 | 85–95 | 0. 2– 0. 6 | Blocky and massive. | 1. 2–1. 4 | 5. 6–6. 0 | Low | High. |

*interpretations*

structure or practice is not needed]

| Soil features affecting—Continued | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|
| Dikes or levees | Farm ponds | | Agricultural drainage | Irrigation | Terraces and diversions | Waterways | |
| | Reservoir area | Embankment | | | | | |
| Moderate strength and stability. | Slow seepage | Moderate strength and stability. | | Slow infiltration; slow permeability. | Slow permeability; moderate stability. | Erodibility; waterways need vegetation and some shaping. | |
| Poor stability | Slow seepage; high water table. | Poor stability; may be used if properly controlled. | Moderate permeability; high water table. | Moderate infiltration; moderate water-holding capacity. | | | Flooded periodically. |
| Good strength | Excessive | Good | | Moderate infil- | Moderate to | Loamy fine | |

TABLE 5.—*Engineering*

| Soil series, land types, and map symbols [1] | Suitability for grading in winter and wet weather | Suitability of soil material for— | | Suitability as source of— | | Soil features affecting— |
|---|---|---|---|---|---|---|
| | | Road subgrade | Road fill | Topsoil | Sand and gravel | Disposal of waste from septic tanks [2] |
| Captina (CnB) | Poor | Poor | Fair or poor | Good in surface layer. | Not suitable | Slow absorption |
| Colbert (CoA, CoB2, CoC2, CoD2, CrB3, CrC3) | Not suitable | Not suitable | Poor or not suitable; high shrink-swell | Not suitable | Not suitable | Very slow absorption; not suitable. |

*interpretations*—Continued

| Soil features affecting—Continued | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|
| Dikes or levees | Farm ponds | | Agricultural drainage | Irrigation | Terraces and diversions | Waterways | |
| | Reservoir area | Embankment | | | | | |
| Moderate strength and stability. | Slow seepage | Moderate strength and stability. | Fragipan at depth of 18 to 30 inches. | Moderate infiltration; low to moderate permeability. | Fragipan at depth of 18 to 30 inches. | Erodibility; waterways need vegetation. | |
| Fair stability | Very slow seepage. | Fair stability on gentle slopes. | Very slow permeability. | Very slow infiltration. | Very slow permeability; will crack. | Erodibility; waterways need vegetation and are difficult to shape. | Very plastic and sticky clay. |
| Fair stability | Slow seepage | Fair stability on gentle | Slow permeability | Slow infiltration | Slow permeability; will | Erodibility; waterways | |

TABLE 5.—*Engineering*

*interpretations*—Continued

| Soil features affecting—Continued | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|
| Dikes or levees | Farm ponds | | Agricultural drainage | Irrigation | Terraces and diversions | Waterways | |
| | Reservoir area | Embankment | | | | | |
| Not suitable | Not suitable except where excavation is deeper than water table. | Not suitable | | Unfavorable features prohibit irrigation. | | | |

TABLE 6.—*Approximate acreage and proportionate extent of the soils*

| Soil name | Area | Extent |
|---|---|---|
| | *Acres* | *Percent* |
| Albertville fine sandy loam, 2 to 6 percent slopes, eroded | 1,780 | 0.4 |
| Albertville fine sandy loam, 6 to 10 percent slopes | 749 | .2 |
| Albertville fine sandy loam, 6 to 10 percent slopes, eroded | 2,342 | .6 |
| Albertville fine sandy loam, shallow, 10 to 15 percent slopes | 850 | .2 |
| Bibb loam | 9,031 | 2.2 |
| Cahaba fine sandy loam, 0 to 2 percent slopes | 353 | .1 |
| Cahaba fine sandy loam, 2 to 6 percent slopes | 1,062 | .3 |
| Cane loam, 2 to 6 percent slopes, eroded | 280 | .1 |
| Cane loam, 6 to 10 percent slopes, eroded | 254 | .1 |
| Captina silt loam, 2 to 6 percent slopes | 852 | .2 |
| Colbert silt loam, 0 to 2 percent slopes | 2,862 | .7 |
| Colbert silt loam, 2 to 6 percent slopes, eroded | 11,050 | 2.7 |
| Colbert silt loam, 6 to 10 percent slopes, eroded | 5,101 | 1.2 |
| Colbert silt loam, 10 to 15 percent slopes, eroded | 1,317 | .3 |
| Colbert silty clay loam, 2 to 6 percent slopes, severely eroded | 1,011 | .2 |
| Colbert silty clay loam, 6 to 10 percent slopes, severely eroded | 1,384 | .3 |
| Cuthbert fine sandy loam, 6 to 10 percent slopes | 5,594 | 1.4 |
| Cuthbert fine sandy loam, 10 to 15 percent slopes | 1,649 | .4 |
| Cuthbert sandy clay loam, 6 to 10 percent slopes, severely eroded | 685 | .2 |
| Cuthbert sandy clay loam, 10 to 25 percent slopes, severely eroded | 1,354 | .3 |
| Cuthbert and Ruston soils, 10 to 15 percent slopes | 1,559 | .4 |
| Cuthbert and Ruston soils, 15 to 25 percent slopes | 50,483 | 12.2 |
| Decatur silt loam, 2 to 6 percent slopes, eroded | 1,451 | .3 |
| Decatur silty clay loam, 2 to 6 percent slopes, severely eroded | 3,278 | .8 |
| Decatur silty clay loam, 6 to 10 percent slopes, severely eroded | 2,252 | .5 |
| Decatur silty clay loam, 10 to 15 percent slopes, severely eroded | 438 | .1 |
| Dowellton silty clay, 0 to 2 percent slopes | 3,144 | .8 |
| Dunning silty clay | 3,076 | .7 |
| Greenville loam, 2 to 6 percent slopes, eroded | 770 | .2 |
| Greenville loam, 2 to 6 percent slopes, severely eroded | 267 | .1 |
| Greenville loam, 6 to 10 percent slopes, severely eroded | 1,019 | .2 |
| Greenville loam, 10 to 15 percent slopes, severely eroded | 194 | (1) |
| Guin gravelly sandy loam, 10 to 15 percent slopes, eroded | 8,563 | 2.1 |
| Guin gravelly sandy loam, 15 to 40 percent slopes | 58,436 | 14.2 |
| Gullied land | 1,192 | .3 |
| Hollywood silty clay | 1,023 | .2 |
| Hollywood silty clay, shallow | 454 | .1 |
| Huntington silt loam, local alluvium | 646 | .2 |
| Iuka fine sandy loam | 6,788 | 1.6 |
| Iuka fine sandy loam, local alluvium | 806 | .2 |
| Lindside silt loam | 4,568 | 1.1 |
| Lindside silt loam, local alluvium | 297 | .1 |
| Linker fine sandy loam, 2 to 6 percent slopes, eroded | 2,295 | .6 |
| Linker fine sandy loam, 6 to 10 percent slopes | 893 | 0.2 |
| Linker fine sandy loam, 6 to 10 percent slopes, eroded | 4,290 | 1.0 |
| Linker fine sandy loam, 10 to 15 percent slopes, eroded | 854 | .2 |
| Melvin silt loam | 3,153 | .8 |
| Mine pits and dumps | 4,364 | 1.1 |
| Ochlockonee fine sandy loam | 7,274 | 1.8 |
| Ora fine sandy loam, 2 to 6 percent slopes, eroded | 2,479 | .6 |
| Ora fine sandy loam, 6 to 10 percent slopes | 551 | .1 |
| Ora fine sandy loam, 6 to 10 percent slopes, eroded | 2,801 | .7 |
| Ora fine sandy loam, heavy substratum, 2 to 6 percent slopes, eroded | 610 | .1 |
| Prentiss fine sandy loam, 0 to 2 percent slopes | 990 | .2 |
| Prentiss fine sandy loam, 2 to 6 percent slopes | 702 | .2 |
| Ramsey fine sandy loam, 10 to 15 percent slopes | 1,243 | .3 |
| Rock land, limestone | 32,838 | 8.0 |
| Rock land, sandstone | 60,254 | 14.6 |
| Ruston fine sandy loam, 2 to 6 percent slopes, eroded | 2,272 | .6 |
| Ruston fine sandy loam, 6 to 10 percent slopes | 2,665 | .6 |
| Ruston fine sandy loam, 6 to 10 percent slopes, eroded | 7,267 | 1.8 |
| Ruston fine sandy loam, 6 to 10 percent slopes, severely eroded | 1,955 | .5 |
| Ruston fine sandy loam, 10 to 15 percent slopes, eroded | 1,629 | .4 |
| Ruston fine sandy loam, 10 to 15 percent slopes, severely eroded | 1,051 | .3 |
| Saffell gravelly fine sandy loam, 2 to 6 percent slopes | 1,821 | .4 |
| Saffell gravelly fine sandy loam, 6 to 10 percent slopes | 4,279 | 1.0 |
| Saffell gravelly fine sandy loam, 6 to 10 percent slopes, eroded | 15,185 | 3.7 |
| Savannah loam, 6 to 10 percent slopes, severely eroded | 1,479 | .4 |
| Savannah very fine sandy loam, 0 to 2 percent slopes | 355 | .1 |
| Savannah very fine sandy loam, 2 to 6 percent slopes | 1,900 | .5 |
| Savannah very fine sandy loam, 2 to 6 percent slopes, eroded | 20,223 | 4.9 |
| Savannah very fine sandy loam, 6 to 10 percent slopes | 5,424 | 1.3 |
| Savannah very fine sandy loam, 6 to 10 percent slopes, eroded | 10,811 | 2.6 |
| Slickens | 737 | .2 |
| Talbott silt loam, 2 to 6 percent slopes, eroded | 3,264 | .8 |
| Talbott silt loam, 6 to 10 percent slopes, eroded | 862 | .2 |
| Talbott silty clay, 2 to 6 percent slopes, severely eroded | 883 | .2 |
| Talbott silty clay, 6 to 10 percent slopes, severely eroded | 921 | .2 |
| Tilden fine sandy loam, 2 to 6 percent slopes | 553 | .1 |
| Tupelo silt loam, 0 to 2 percent slopes | 769 | .2 |
| Total | 412,160 | 100.0 |

[1] Less than 0.05 percent.

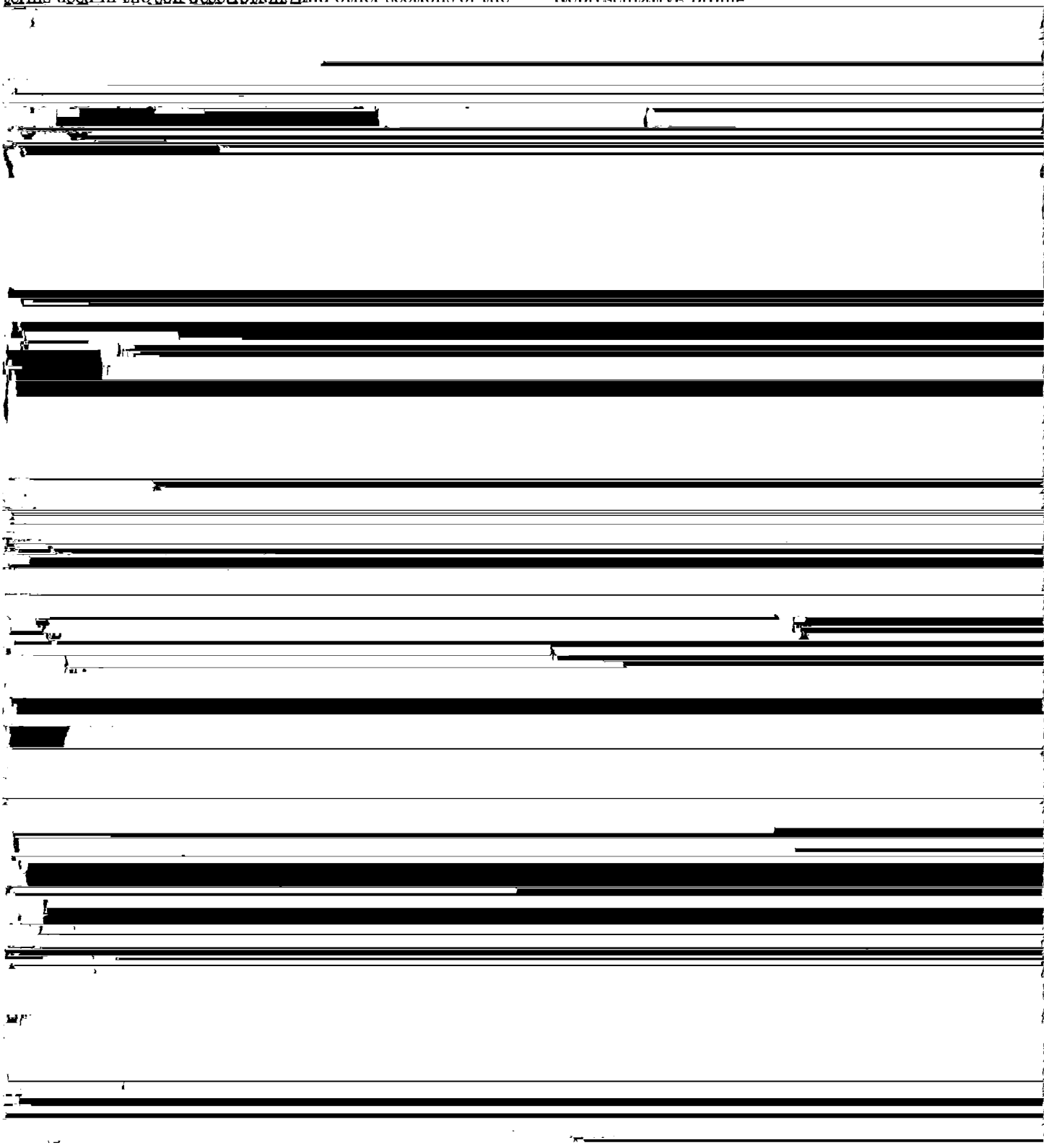
described can be found readily by referring to the "Guide to Mapping Units" at the back of the report.

Soil scientists, engineers, students, and others who want detailed descriptions of the soil series should turn to the section "Formation and Classification of Soils." Many terms used in the soil descriptions and other sections of the

erosion is severe. (Capability unit IIIe–44; woodland suitability group 2)

**Albertville fine sandy loam, shallow, 10 to 15 percent slopes** (AsD).—This is a well-drained soil on uplands. It has a brownish-yellow, firm, clayey subsoil.

Representative profile:



Cahaba soils occur with Prentiss and Tilden soils, but [redacted] few sandstone fragments ¼ to 2 inches across [redacted]

reddish-brown subsoil without a fragipan. Some small areas are on slopes of less than 2 percent.

This soil is strongly acid and is low in natural fertility and in organic-matter content. It is well suited to cultivated crops and responds well to good management. Tilth is generally good. Permeability is medium in the surface layer and upper subsoil and is slow in the lower subsoil. The available moisture capacity is moderate to low.

Most of the acreage is used for crops and pasture. Cultivated fields have a moderate erosion hazard. (Capability unit IIe–15; woodland suitability group 1A)

The response to management is fair. About one-third of the acreage is in crops and pasture, and the rest is forested or idle. (Capability unit IIIw–42; woodland suitability group 3A)

**Colbert silty clay loam, 2 to 6 percent slopes, severely eroded** (CrB3).—This soil differs from Colbert silt loam, 2 to 6 percent slopes, eroded, in having lost, through erosion, all or nearly all of its original surface layer of light grayish-brown silt loam. The plow layer is now brownish-yellow or yellowish-brown, firm silty clay loam. The subsoil is yellowish-brown, mottled, plastic silty clay

## Colbert Series

In the Colbert series are moderately well drained to somewhat poorly drained, nearly level to sloping soils that developed in residuum weathered mainly from clayey limestone and, to a lesser extent, from calcareous shale. The surface layer is dark yellowish-brown silt loam, and the subsoil is yellowish-brown to strong-brown, plastic silty clay to clay.

Colbert soils occur with Decatur, Talbott, Dowellton,

This soil is poorly suited to cultivated crops. It is sticky when wet and clods when it dries. Tilth is very poor. Infiltration is very slow, runoff is rapid, and the hazard of further erosion is severe.

Most of this soil has been used for tilled crops and pasture. About one-fifth of the acreage is now cultivated; the rest is in pasture or native trees or is idle. (Capability unit IVe–448; woodland suitability group 3A)

**Colbert silt loam, 6 to 10 percent slopes, eroded** (CoC2).—Because it is more sloping than Colbert silt

of further erosion is very severe. Consequently, this is a poor soil for cultivation, though it can be safely cultivated occasionally. About four-fifths of the acreage is forested; the rest is pastured, cultivated, or idle. (Capability unit VIe–48; woodland suitability group 3B)

## Cuthbert Series

In the Cuthbert series are moderately well drained soils that developed in beds of sand, silt, and clay on rough

than that of Cuthbert fine sandy loam, 10 to 15 percent slopes.

The soil is low in natural fertility and organic-matter content and is strongly to very strongly acid. Surface runoff is medium, and the available moisture capacity is low. The soil erodes easily and is poorly suited to cultivation.

In Franklin County, this soil is the most extensive of the Cuthbert series. Most of the acreage has been cleared. (Capability unit VIe–10; woodland suitability

## Decatur Series

In the Decatur series are deep, well-drained, gently sloping and sloping soils in the limestone valleys. Uneroded areas have a reddish-brown to dark reddish-brown silt loam surface layer and a dark-red, friable to moderately firm silty clay subsoil. The soils are underlain by limestone.

Decatur soils occur with Talbott and Colbert soils. They are deeper and redder than those soils and have a more friable subsoil.

The Decatur soils make up about 1.78 percent of the county and are mainly in an area east of Russellville, near Waco and Newburg. The native vegetation consists chiefly of mixed hardwoods, though there are some pines and redcedars. Nearly all of the acreage has been cleared.

**Decatur silt loam, 2 to 6 percent slopes, eroded** (DaB2).—This dark-red, friable soil in limestone valleys is deep and well drained. It has had nearly all of its original surface layer washed away, and in some places part of the upper subsoil. The surface layer is now dark reddish-brown silty clay loam that is firm when moist and slightly sticky when wet. Shallow gullies are common, and a few deep ones have formed in some areas.

Infiltration is slow, the available moisture capacity is moderate to low, and the hazard of further erosion is severe. Consequently, this soil is poorly suited to cultivation and is only fairly well suited to hay and pasture. (Capability unit VIe–441; woodland suitability group 3B)

## Dowellton Series

Soils of the Dowellton series have a brownish-gray, plastic heavy clay subsoil and are somewhat poorly drained. These soils are in limestone valleys and developed in residuum from argillaceous limestone. In Franklin County, these soils are nearly level.

Dowellton soils occur with Talbott, Colbert, and Hall—

This soil is low in natural fertility, contains little organic matter, and is strongly acid. Infiltration is very slow, and the available moisture capacity is low. Tilth is generally poor. This is a fair to poor soil for cultivation, and only a small acreage is used for crops and pasture. Poor drainage is a severe hazard. (Capability unit IIIw–42; woodland suitability group 3A)

## Dunning Series

The soils of the Dunning series are poorly drained.

Representative profile:

0 to 4 inches, reddish-brown, friable loam.
4 to 46 inches, dark-red, friable clay loam; fine and medium, blocky structure; few, fine, dark-brown concretions, ⅛ to ¼ inch across.
46 to 120 inches, dark-red, friable fine sandy clay loam; weak, fine, blocky structure.

This soil is well suited to cultivation. It is moderately low in natural fertility and organic-matter content, but it responds well to management. Tilth is good, permeability is rapid, and the available moisture capacity is

acreage. Large areas occur near Belgreen, near Jonesboro, and west of Russellville. The native vegetation consists chiefly of oak, hickory, poplar, gum, ash, dogwood, maple, and pine. Most of the acreage is forested.

**Guin gravelly sandy loam, 15 to 40 percent slopes** (GuF).—This is a deep, gravelly soil on the Coastal Plain.

Representative profile:

0 to 6 inches, brown, very friable gravelly sandy loam that is 10 to 20 percent gravel.
6 to 96 inches, strong-brown, loose gravelly sandy loam that is about 75 percent gravel.

This soil is not suitable for cultivation. It is low in natural fertility and organic-matter content and is very strongly acid. Infiltration is rapid, but the available moisture capacity is very low.

The soil is well suited to trees, especially loblolly and Virginia pines. (Capability unit VIIs–11; woodland suitability group 2F)

**Guin gravelly sandy loam, 10 to 15 percent slopes, eroded** (GuD2).—This soil is less strongly sloping but is more eroded than Guin gravelly sandy loam, 15 to 40 percent slopes.

It is low in natural fertility and content of organic matter and is very strongly acid. Although infiltration is

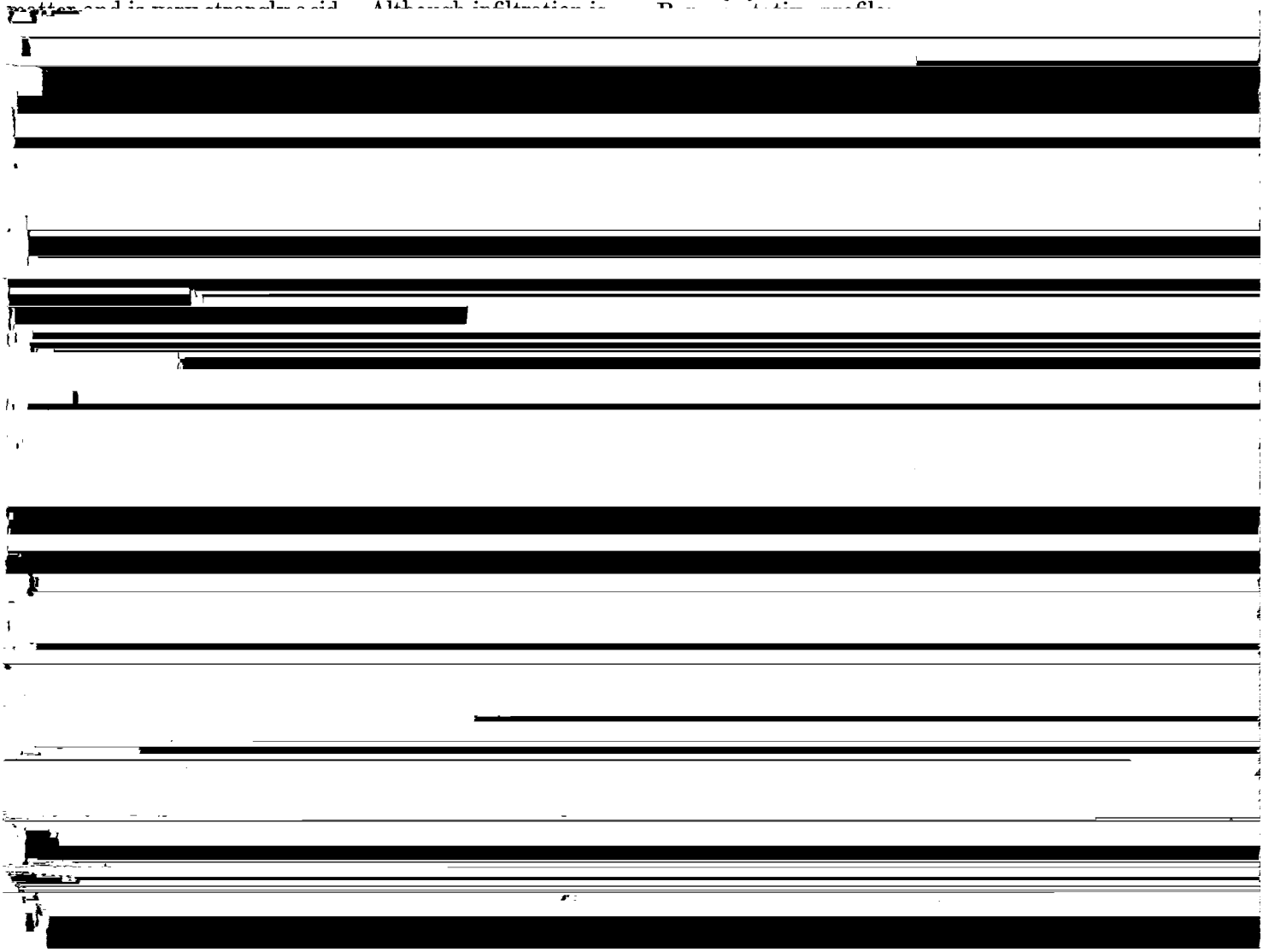
limestone valleys. These soils are nearly level, are shallow to moderately deep, and occur in depressions and on low benches at the foot of steeper slopes. They developed in residuum or colluvium derived from argillaceous limestone. Their surface layer is generally a very dark gray silty clay, and their subsoil is a black, sticky, plastic clay.

Hollywood soils occur with Talbott, Colbert, Tupelo, Dowellton, and Dunning soils and with Rock land, limestone. They are thicker and darker colored in the surface layer than all those soils. Hollywood soils are not so red as Talbott soils or so yellow as Colbert and Tupelo soils, all of which have more clearly defined horizons than Hollywood soils. They are better drained than the Dowellton soils of the uplands and the Dunning soils of first bottoms.

The Hollywood soils make up about 0.3 percent of the county and are mainly in the northeastern part. The native vegetation consists mainly of oak, willow, hickory, locust, elm, gum, redbud, and redcedar.

**Hollywood silty clay** (Ho).—This is a black, moderately well drained to somewhat poorly drained soil derived from clayey limestone.

Representative profile



better drained than the moderately well drained Lindside and the poorly drained Melvin soils.

The Huntington soils make up only about 0.2 percent of the county and are mainly in areas east of Russellville and near Waco and Newburg. The native vegetation consists chiefly of oak, hickory, elm, poplar, and cedar. Practically all the acreage is cleared.

**Huntington silt loam, local alluvium** (Hu).—This well-drained soil developed from local alluvium in the limestone valleys.

Representative profile:

0 to 18 inches, reddish-brown, friable silt loam.
18 to 38 inches, dark reddish-brown, friable silt loam.
38 to 54 inches +, yellowish-red, friable silty clay loam with fine mottles of reddish brown.

The soil is medium to high in natural fertility and in content of organic matter and is medium acid. It is

18 to 22 inches, light olive-brown, friable loam with few, faint mottles of gray.
22 to 50 inches, mottled gray and brown, friable silt loam.

This soil is medium in natural fertility and organic-matter content and is strongly acid. It has a moderate to high available moisture capacity, is generally in good tilth, responds well to management, and is well suited to cultivation. Excess water is a hazard. (Capability unit IIw–12; woodland suitability group 1)

## Lindside Series

In the Lindside series are moderately well drained soils that occupy first bottoms and depressions in the limestone valleys. These soils are forming in general and local alluvium washed from soils that developed in the residuum from high-grade limestone. They consist of dark-brown to reddish-brown silt loam that is underlain, at a depth

layer of very dark grayish-brown fine sandy loam and a subsoil of yellowish-red to red loam to fine sandy clay loam.

Linker soils occur with Albertville and Ramsey soils and are redder than those soils. They are coarser textured than the Albertville soils and are thicker and finer textured than the Ramsey soils.

The Linker soils make up about 2 percent of the county and are in the southeastern part. The native vegetation consists chiefly of oak, pine, hickory, blackgum, and dogwood. About three-fourths of the acreage has been cleared.

## Melvin Series

In the Melvin series are light-colored, poorly drained soils on first bottoms in the limestone valleys. These soils formed from young alluvium that washed mainly from soils of uplands that are underlain by limestone.

Melvin soils occur mainly with the well-drained Huntington and the moderately well drained Lindside soils. In places they occur with the dark grayish-brown, poorly drained Dunning soils.

The Melvin soils make up about 0.8 percent of the county and are chiefly in the northeastern part. The native vege-

chestnut oaks, gum, hickory, beech, and poplar. Much of the acreage has been cleared.

**Ochlockonee fine sandy loam** (Oc).—This is a well-drained, sandy soil on first bottoms.

Representative profile:

0 to 7 inches, brown, very friable fine sandy loam.
7 to 28 inches, brown, friable silt loam.
28 to 38 inches, dark-brown, friable loam.
38 to 72 inches, dark grayish-brown, loose loamy fine sand.

This soil is medium in natural fertility and organic-matter content and is strongly acid to very strongly acid. It is generally in good tilth, has a high available moisture capacity, responds well to management, and is well suited to cultivation. Nearly all the acreage is used for crops and pasture. Flooding is the main limitation to cultivation. (Capability unit IIw–12; woodland suitability group 1)

**Ora fine sandy loam, heavy substratum, 2 to 6 percent slopes, eroded** (OsB2).—This moderately well drained soil has a fragipan that is underlain by a heavy substratum.

Representative profile:

0 to 4 inches, dark yellowish-brown, friable fine sandy loam; few to common fragments of iron crust ¼ to 2 inches across.
4 to 20 inches, strong-brown, friable loam; blocky structure; few fragments of iron crust ¼ to 2 inches across.
20 to 28 inches, strong-brown, very firm, compact and brittle fine sandy loam or loam mottled with brown and gray; common, hard fragments of iron crust ¼ to 2 inches across.
28 to 48 inches +, mottled yellow, red, gray, and brown, firm to very firm silty clay loam to silty clay.

This soil is generally in good tilth and responds well to management. It has a moderate to low available moisture capacity, is low in natural fertility and organic-matter content, and is strongly acid to very strongly acid. Permeability of the subsoil is moderate above the fragipan but is slow to very slow in it. This soil is

[redacted]

In the Ora series are moderately deep, moderately well drained soils that have a fragipan at a depth of 18 to 30 inches. These soils are on gently sloping to sloping uplands in the Coastal Plain. Forested areas have a surface layer of dark grayish-brown fine sandy loam that is underlain by strong-brown to yellowish-red loam and that, in turn, by a fragipan at a depth of 18 to 28 inches. In some places near Hodges and Vina, the fragipan is

moderately well suited or well suited to cultivation. About two-thirds of the acreage has been cleared and is used for crops and pasture. Erosion is the main limitation to cultivation. (Capability unit IIe–15; woodland suitability group 2C)

**Ora fine sandy loam, 6 to 10 percent slopes** (OrC).—Although this soil is more strongly sloping than Ora fine sandy loam, 2 to 6 percent slopes, eroded, it is less eroded and is dark grayish brown instead of grayish brown in the

[redacted]

hickory, pine, beech, elm, poplar, and dogwood. Most of the acreage has been cleared.

**Prentiss fine sandy loam, 0 to 2 percent slopes** (PrA).—This moderately well drained soil on stream terraces has a fragipan. fairly well to poorly suited to pasture. It is well suited to loblolly and Virginia pines. Most of the acreage is forested. (Capability unit VIe-49; woodland suitability group 3D)

and scarlet oaks, hickory, dogwood, and pine. Much of the acreage has been cleared.

**Ruston fine sandy loam, 2 to 6 percent slopes, eroded** (RuB2).—This is a deep, well-drained soil on Coastal Plain uplands.

Representative profile:

0 to 6 inches, dark-brown, very friable fine sandy loam.
6 to 32 inches, yellowish-red, friable very fine sandy clay loam.
32 to 45 inches, yellowish-red fine sandy loam.
45 to 72 inches, red, loose sandy loam splotched with yellowish red.

The soil is low in natural fertility and organic-matter content and is strongly acid to very strongly acid. It is generally in good tilth, responds well to management, and has moderate available moisture capacity. This soil is well suited to cultivation but is moderately susceptible to erosion. Tilth is generally fair.

This soil is inextensive in the county. Practically all of the acreage has been cleared, but most of it is reverting to trees, chiefly loblolly and Virginia pines. (Capability unit IIIe-1; woodland suitability group 2D)

**Ruston fine sandy loam, 6 to 10 percent slopes, eroded** (RuC2).—This is a deep, well-drained soil on Coastal Plain uplands.

Representative profile:

0 to 6 inches, dark-brown, very friable fine sandy loam.
6 to 32 inches, yellowish-red, friable very fine sandy clay loam.
32 to 45 inches, yellowish-red fine sandy loam.
45 to 72 inches, red, loose sandy loam splotched with yellowish red.

The soil is low in natural fertility and organic-matter content and is strongly acid to very strongly acid. It is generally in good tilth, responds well to management, and has moderate available moisture capacity. This soil is well suited to cultivation but is moderately susceptible to erosion. Tilth is generally fair.

This soil is inextensive in the county. Practically all of the acreage has been cleared, but most of it is reverting to trees, chiefly loblolly and Virginia pines. (Capability unit IIIe-1; woodland suitability group 2D)

**Ruston fine sandy loam, 6 to 10 percent slopes, severely eroded** (RuC3).—This is a deep, well-drained soil on Coastal Plain uplands. It has a profile similar to that of Ruston fine sandy loam, 2 to 6 percent slopes, eroded, but is more severely eroded. Shallow gullies are common, and a few deep ones have formed. Included are a few small areas on 15 to 25 percent slopes. This soil has a low available moisture capacity, has medium to rapid runoff, is subject to further severe erosion, and consequently is not suited to cultivation. Tilth is generally fair.

This soil is inextensive in the county. Practically all of the acreage has been cleared, but most of it is reverting to trees, chiefly loblolly and Virginia pines. (Capability unit VIe-111; woodland suitability group 2D)

## Saffell Series

In the Saffell series are gently sloping and sloping, gravelly, well-drained soils on uplands of the Coastal

This soil is fairly extensive and is fairly well suited to cultivation. Although tilth is generally good, the available moisture capacity is low, surface runoff is moderate, and the erosion hazard is moderate to severe. Most of the acreage has been cleared and is used for tilled crops and pasture. (Capability unit IIIe–12; woodland suitability group 2B)

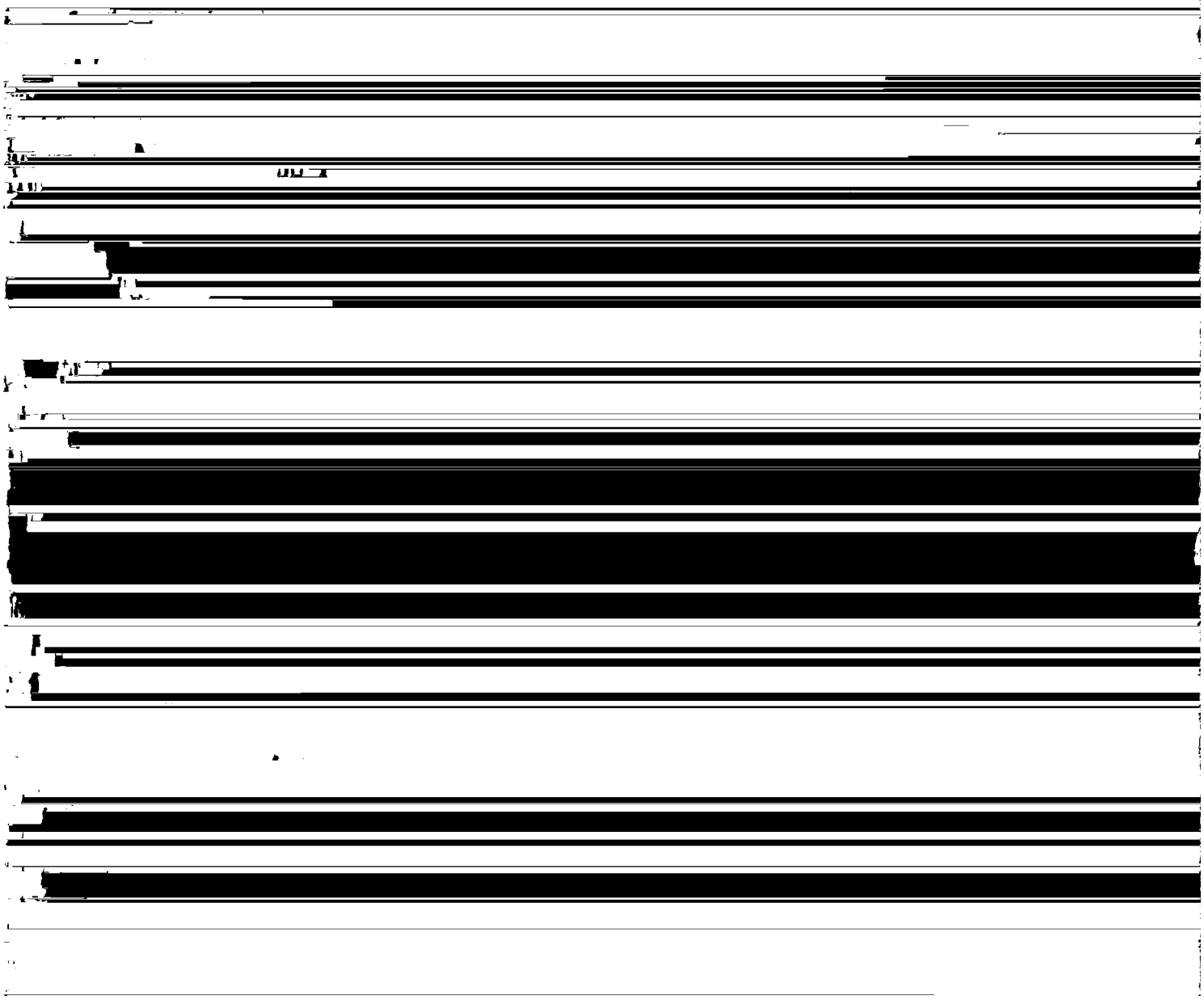
## Savannah Series

In the Savannah series are nearly level to strongly sloping, moderately well drained soils that are on uplands and have a fragipan. Uneroded areas have a surface layer of dark grayish-brown very fine sandy loam and a subsoil of olive-brown to yellowish-brown loam. These soils are generally underlain with beds of sand, fine sand, and gravel.

Savannah soils occur chiefly with the Ora and Saffell soils. They have a fragipan like that in the Ora soils but cleared and cultivated, this soil is moderately susceptible to erosion. (Capability unit IIe–15; woodland suitability group 2C)

**Savannah very fine sandy loam, 6 to 10 percent slopes** (SnC).—This strongly sloping soil is thinner than Savannah very fine sandy loam, 2 to 6 percent slopes, eroded. It is fairly well suited to cultivation but has a fragipan that restricts the root zone and limits the moisture available to plants. Most of the acreage is forested. In areas that are cleared and cropped, erosion is a major hazard. (Capability unit IIIe–15; woodland suitability group 2C)

**Savannah very fine sandy loam, 6 to 10 percent slopes, eroded** (SnC2).—This soil is more strongly sloping and is thinner than Savannah very fine sandy loam, 2 to 6 percent slopes, eroded. It is extensive in this county. Most of the acreage is cleared and used for crops and pasture. Erosion is a major hazard. (Capability unit IIIe–15; woodland suitability group 2C)



**Talbott silt loam, 2 to 6 percent slopes, eroded** (TaB2).—This moderately well drained soil has a red, plastic subsoil over limestone.

Representative profile:

0 to 4 inches, reddish-brown, friable silt loam.
4 to 15 inches, red, firm, plastic silty clay or clay with a few, fine mottles of yellowish brown; medium, blocky structure.
15 to 24 inches, yellowish-red, firm, plastic clay mottled with yellow and brown; moderate, blocky structure.
24 to 72 inches, mottled yellow, brown, and gray, very firm, plastic heavy clay.

This soil is strongly acid and is medium in natural fertility and organic-matter content. It is generally in good tilth, has a moderate to low available moisture capacity, and responds well to fertilization. It is fairly well suited to cultivation, but the risk of further erosion is great. Practically all of the acreage is used for crops and pasture. (Capability unit IIIe–46; woodland suitability group 3A)

**Talbott silty clay, 2 to 6 percent slopes, severely eroded** (TbB3).—This gently sloping soil has lost three-fourths or more of the original surface layer and, in places, some of the subsoil. The present surface layer is red, sticky, plastic silty clay and is thinner, redder, and finer textured than that of Talbott silt loam, 2 to 6 percent slopes, eroded. Shallow gullies are common in some areas.

This inextensive soil is generally in fair tilth and is fairly well suited to cultivation, but erosion is a major problem. Most of the acreage has been cleared. (Capability unit IVe–448; woodland suitability group 3A)

**Talbott silt loam, 6 to 10 percent slopes, eroded** (TaC2).—This strongly sloping soil is thinner than Talbott silt loam, 2 to 6 percent slopes, eroded. Its inextensive acreage in the county is mostly cleared. The soil has a moderate to low available moisture capacity, is in fair to good tilth, responds well to fertilization, and is fairly well suited to cultivation. Erosion is a major hazard. (Capability unit IVe–48; woodland suitability group 3A)

which do not have a fragipan. Tilden soils are browner or redder than Prentiss soils.

These soils amount to only about 0.13 percent of the county. The largest areas are along Little Bear Creek east of Red Bay and along Cedar Creek near Pogo. The native vegetation consists chiefly of oak, hickory, gum, beech, elm, dogwood, poplar, and pine. Much of the acreage has been cleared.

**Tilden fine sandy loam, 2 to 6 percent slopes** (TdB).—This moderately well drained soil is on stream terraces and has a fragipan.

Representative profile:

0 to 8 inches, dark-brown, very friable fine sandy loam.
8 to 21 inches, yellowish-red heavy loam to light clay loam; fine, blocky structure.
21 to 37 inches, yellowish-red, firm, brittle fine sandy clay loam mottled with yellow.
37 to 52 inches +, mottled strong-brown, light brownish-gray, and yellowish-brown, friable to firm fine sandy loam.

This soil is well suited to cultivation. Although it is low in natural fertility and organic-matter content and is medium acid to strongly acid, it is generally in good tilth, has a moderate available moisture capacity, and responds fairly well to management. The lower subsoil is slowly to very slowly permeable because of the fragipan.

Most of this soil has been cleared and is used for crops and pasture. Erosion is a moderate hazard. (Capability unit IIe–15; woodland suitability group 2C)

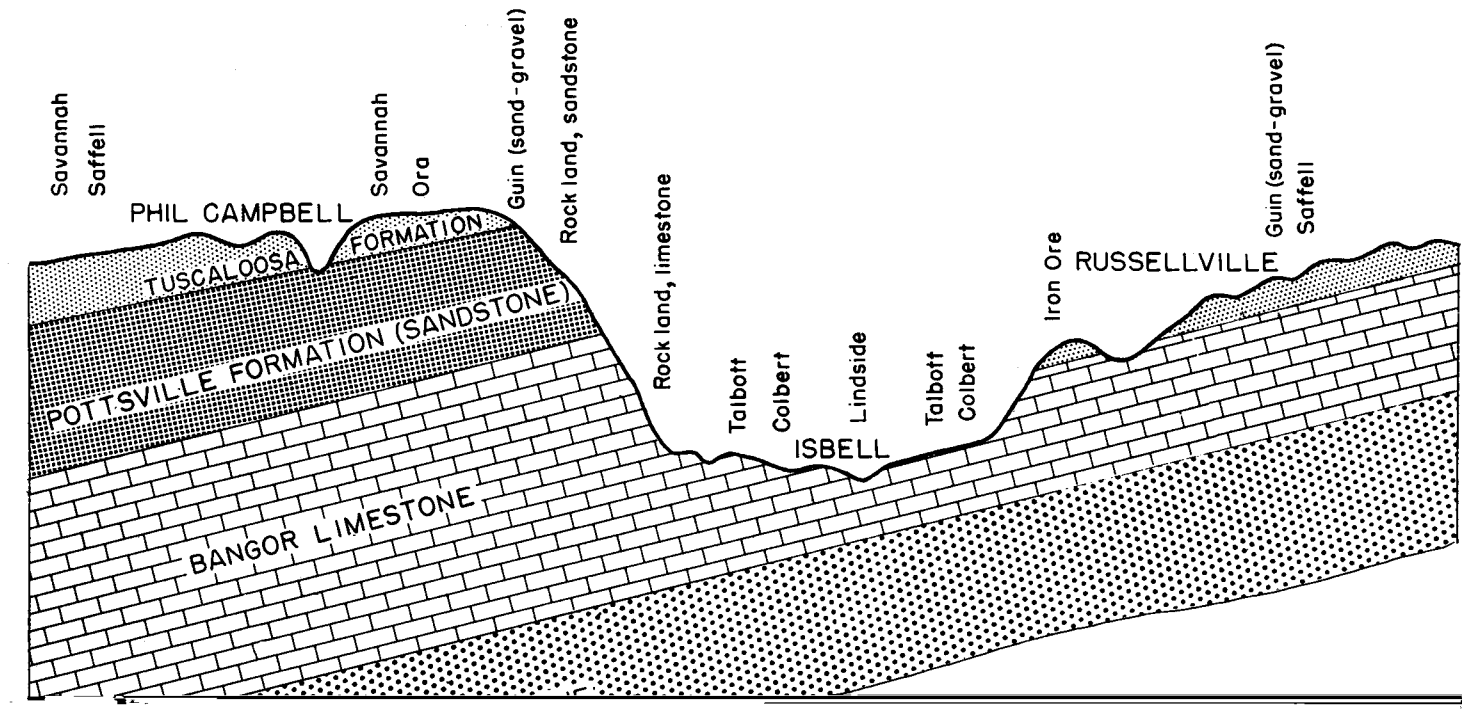
## Tupelo Series

Soils of the Tupelo series are on nearly level stream terraces in the limestone valleys and are somewhat poorly drained. These soils developed in fine-textured, old alluvium that washed from soils derived mainly from clayey limestone that was influenced by sandstone and shale.

Tupelo soils occur with Captina and Colbert soils. They are similar to Colbert soils in texture and color but are more poorly drained. The Tupelo soils, unlike the Captina soils, have a mottled, clayey subsoil and lack a

and other field operations. (Capability unit IIIw–42; woodland suitability group 3C)

of Franklin County. As a rule, soils developed from residuum are related to a particular rock formation or part of a rock formation. The Linker and Ramsey soils are generally related to the sandier parts of the Pottsville


Savannah
Saffell
PHIL CAMPBELL
Savannah
Ora
Guin (sand-gravel)
Rock land, sandstone
TUSCALOOSA FORMATION
POTTSVILLE FORMATION (SANDSTONE)
BANGOR LIMESTONE
Rock land, limestone
Talbott
Colbert
Lindside
ISBELL
Talbott
Colbert
Iron Ore
RUSSELLVILLE
Guin (sand-gravel)
Saffell

The soils of Franklin County range from young to very old. The young soils in the county are in two broad

From the broadest category to the narrowest, these are the order, great soil group, series, and type (8).

TABLE 7.—*Characteristics and genetic relationships of soil series*—Continued

ZONAL SOILS—Continued

| Great soil group and soil series | Brief profile description [1] | Topographic position | Soil drainage class | Slope range | Parent material | Degree of profile development [2] |
|---|---|---|---|---|---|---|
| Red-Yellow Podzolic soils—Continued | | | | | | |
| With fragipan: | | | | | | |
| Cane | Dark grayish-brown silt loam over yellowish-red silty clay loam with a fragipan at a depth of about 22 inches. | Foot slopes | Moderately well drained and well drained. | 2 to 10 | Old local alluvium from sandstone and limestone residuum. | Strong. |
| Captina | Very dark grayish-brown to dark-brown silt loam over strong-brown loam to light silt loam with a fragipan at a depth of about 24 inches. | Stream terraces. | Moderately well drained. | 2 to 6 | Old alluvium and local alluvium chiefly from limestone residuum. | Strong. |
| Ora | Grayish-brown fine sandy loam over strong-brown to yellowish-red loam with a fragipan at a depth of about 24 inches. | Uplands | Moderately well drained. | 2 to 10 | Beds of fine sand and silt of the Coastal Plains. | Strong. |
| Prentiss | Dark-brown very fine sandy loam over yellowish-brown loam with a fragipan at a depth of about 24 inches. | Stream terraces. | Moderately well drained. | 0 to 6 | Old alluvium and local alluvium from Coastal Plain soils. | Strong. |
| Savannah | Grayish-brown very fine sandy loam over olive-brown to yellowish-brown loam with a fragipan at a depth of about 22 inches. | Uplands | Moderately well drained. | 0 to 10 | Beds of fine sand and silt of the Coastal Plains. | Strong. |
| Tilden | Dark-brown very fine sandy loam over yellowish-red loam to fine sandy clay loam with a fragipan at a depth of about 24 inches. | Stream terraces. | Moderately well drained. | 2 to 6 | Old alluvium from Coastal Plain soils. | Strong. |
| Grading toward Low-Humic Gley soils: | | | | | | |
| Tupelo | Dark grayish-brown to brownish-yellow silt loam over mottled, olive-brown, grayish-brown, and strong-brown silty clay to clay. | Stream terraces. | Somewhat poorly drained. | 0 to 2 | Old alluvium and local alluvium from limestone residuum. | Moderate to strong. |
| Reddish-Brown Lateritic soils: | | | | | | |
| Central concept: | | | | | | |
| Decatur | Dark reddish-brown silt loam over dark-red silty clay to clay. | Uplands | Well drained | 2 to 15 | Residuum from limestone. | Strong. |
| Greenville | Dark reddish-brown fine sandy loam to loam over dark-red fine sandy clay loam to clay loam. | Uplands | Well drained | 2 to 15 | Beds of fine sand and fine sandy loam of the Coastal Plains. | Strong. |

INTRAZONAL SOILS

| | | | | | | |
|---|---|---|---|---|---|---|
| Grumusols: | | | | | | |
| Hollywood | Very dary gray silty clay over very dark gray or black clay. | Upland depressions and low benches. | Somewhat poorly drained or moderately well drained. | 0 to 5 | Residuum or local limestone alluvium. | Weak. |
| Low-Humic Gley soils: | | | | | | |
| Bibb | Dark grayish-brown loam over mottled grayish-brown and gray silt loam. | First bottoms | Poorly drained | 0 to 2 | General and local alluvium from Coastal Plains. | Weak. |

See footnotes at end of table.

TABLE 7.—*Characteristics and genetic relationships of soil series*—Continued

INTRAZONAL SOILS—Continued

| Great soil group and soil series | Brief profile description [1] | Topographic position | Soil drainage class | Slope range | Parent material | Degree of profile development [2] |
|---|---|---|---|---|---|---|
| Low-Humic Gley soils—Continued | | | | | | |
| Dowellton | Dark-gray to dark-brown silty clay over mottled olive-brown and gray clay. | Uplands flats | Poorly drained | 0 to 2 | Residuum from shale and argillaceous limestone. | Weak to moderate. |
| Melvin | Dark brownish-gray to light-gray silt loam over mottled light brownish-gray and yellowish-brown silt loam to silty clay loam. | First bottoms | Poorly drained | 0 to 2 | General and local alluvium from limestone residuum. | Weak. |
| Humic Gley soils: | | | | | | |
| Dunning | Very dark gray silty clay over mottled gray and yellowish-brown clay. | First bottoms | Poorly drained | 0 to 2 | Alluvium from limestone. residuum. | Weak. |
| AZONAL SOILS | | | | | | |
| Alluvial soils: | | | | | | |
| Huntington | Dark reddish-brown to reddish-brown silt loam over yellowish-red and gray silty clay loam. | Stream terraces and depressions. | Well drained | 0 to 2 | General and local alluvium from limestone residuum. | Weak. |
| Iuka | Dark grayish-brown very fine sandy loam over mottled brown and gray fine sandy | First bottoms and depressions. | Moderately well drained. | 0 to 2 | General and local alluvium from | Weak. |

off the soil and contributes to relatively rapid geologic erosion. Soils in these places are young because the parent

B3—26 to 36 inches, brownish-yellow (10YR 6/6) clay that has common, medium, distinct mottles of brown (10YR 5/3) and light gray (10YR 7/2); weak and

small, brown concretions; strongly acid; gradual, wavy boundary.

B3—16 to 20 inches, yellowish-brown (10YR 5/8) clay with common, distinct, fine mottles of yellowish red (5YR 4/8) and light brownish gray (2.5Y 6/2); moderate, fine and medium, subangular blocky structure; common clay films on peds; very firm when moist, very sticky and very plastic when wet; common dark-brown concretions ⅛ to ¼ inch across; common chert fragments 1 to 2 inches across; strongly acid; gradual, wavy boundary.

C1—20 to 43 inches, strong-brown (7.5YR 5/8) clay that has many, medium, prominent mottles of yellowish red (5YR 4/8) and light gray (2.5Y 7/2); massive (structureless) to moderate, medium, subangular blocky structure; very firm when moist, very plastic and very sticky when wet; a few dark-brown concretions ⅛ to ¼ inch across; common chert fragments 1 to 2 inches across; strongly acid; gradual, wavy boundary.

C2—43 to 57 inches, mottled strong-brown (7.5YR 5/6), yellowish-red (5YR 5/6), and gray (10YR 6/1) clay; mottles are many, medium, and distinct; massive (structureless); very firm when moist, very plastic and very sticky when wet; common fragments of cherty limestone 2 to 6 inches across; many brown concretions ⅛ to ¼ inch across; mildly acid to neutral.

Dr—57 inches +, limestone bedrock.

The surface layer is light brownish-gray (10YR 6/2) silt loam in forested areas and yellowish-brown (10YR 5/4) silt loam to silty clay loam in cultivated fields. The subsoil is mottled and ranges from brownish-yellow (10YR 6/6) to strong-brown (7.5YR 5/6) plastic silty clay or clay.

*Cuthbert series:* The soils of this series have a thin B horizon and are moderately well drained. They developed from beds of acid silt and clay and thin strata of sand of the Tuscaloosa formation. Following is a profile of [illegible]

The surface layer ranges from sandy loam to silt loam in texture and from dark grayish brown (10YR 4/2) to pale olive (5YR 6/3) in color. On the surface and in the soil are a few to many fragments of iron crust, 1 to 8 inches across. The subsoil is silty clay loam to clay that ranges from strong brown (7.5YR 5/6) to red (2.5YR 4/6).

*Linker series:* In this series are deep, well-drained soils that developed in the residuum of sandstone and were influenced by thinly interbedded shale of the Pottsville formation. Following is a profile of Linker fine sandy loam, 2 to 6 percent slopes, eroded, in a moist, forested area about 2 miles southwest of Union School (NE¼NW¼ sec. 16, T. 8 S., R. 10 W.):

A1—0 to 2 inches, very dark grayish-brown (10YR 3/2) fine sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid; clear, smooth boundary.

A2—2 to 8 inches, yellowish-brown (10YR 5/4) fine sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid; gradual, smooth boundary.

B1—8 to 14 inches, strong-brown (7.5YR 5/6) light fine sandy clay loam; weak, fine, crumb structure and weak, fine, subangular blocky structure; friable; a few fine roots; strongly acid; gradual, wavy boundary.

B2—14 to 32 inches, yellowish-red (5YR 4/8) loam; weak, fine, subangular blocky structure; friable; strongly acid; gradual, wavy boundary.

B3—32 to 42 inches, strong-brown (7.5YR 5/8) loam that has many, fine, distinct mottles of yellowish red (5YR 4/8), yellowish brown (10YR 5/6), and light brownish gray (10YR 6/2); weak and moderate, fine and medium, subangular blocky structure; friable; strongly acid; gradual, wavy boundary.

C—42 to 54 inches, yellowish-red (5YR 4/8) loam that has many, fine, distinct mottles of red and light gray; weak, fine, granular structure; friable; strongly acid;

a few pebbles ¼ to 2 inches across and a few fragments of iron crust 1 to 5 inches across. Strata of loamy sand are common in the C horizon.

*Saffell series:* In this series are deep, well-drained soils derived from thick beds of acid sandy loam, sandy clay loam, and gravel of the Tuscaloosa formation. Following is a profile of Saffell gravelly fine sandy loam, 2 to 6 percent slopes, in a moist, cultivated area ½ mile east of Gravel Hill School (NE¼SE¼ sec. 17, T. 8 S., R. 12 W.):

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) gravelly fine sandy loam; weak, fine, granular structure; very friable; soil mass is about 35 to 45 percent chert fragments and quartz pebbles ranging from ¼ to 2 inches across; common fine roots; strongly acid; clear, smooth boundary.

B1—6 to 11 inches, yellowish-brown (10YR 5/6) gravelly very fine sandy loam; weak, fine, subangular blocky structure; friable; soil mass is about 40 to 50 percent gravel consisting of pebbles ¼ to 2 inches across; few fine roots; strongly acid; gradual, wavy boundary.

B2—11 to 24 inches, strong-brown (7.5YR 5/8) gravelly fine sandy clay loam; weak, fine, subangular blocky structure; friable; the soil mass is about 50 to 60 percent gravel consisting of pebbles ¼ to 2 inches across; strongly acid; gradual, wavy boundary.

B3—24 to 35 inches, yellowish-red (5YR 4/8) gravelly fine sandy loam with few splotches of red (2.5YR 5/8); weak, fine, granular structure; friable; soil mass is about 75 percent gravel consisting of pebbles ¼ to 2 inches across; strongly acid; gradual, wavy boundary.

C—35 to 72 inches +, yellowish-red (5YR 5/8) gravelly loamy fine sand; single grain (structureless); very friable when moist, loose when dry; soil mass is about 80 to 90 percent pebbles; very strongly acid.

In places the surface layer is gravelly sandy loam or gravelly loam. The color of the subsoil ranges from yellowish brown (10YR 5/8) to yellowish red (5YR 5/8). The gravel content ranges from 15 to 90 percent. The pebbles are mostly chert and are ¼ to 3 inches across.

*Talbott series:* In this series are moderately deep, moderately well drained soils that developed in residuum from argillaceous limestone and have a plastic B horizon. Following is a profile of Talbott silt loam, 2 to 6 percent slopes, eroded, in a moist, cultivated area 1¾ miles southwest of Waco, 1,500 feet west of the intersection of [illegible] road 75 and 44 (SE¼NW¼ sec. 11, T. 7 S., R. [illegible]

C—24 to 72 inches, mottled reddish-yellow (5YR 6/8), yellowish-brown (10YR 5/8), and light brownish-gray (10YR 6/2) heavy clay; mottles many, medium, and distinct; massive (structureless); moderately friable when moist, very hard when dry, very plastic and sticky when wet; a few (less than 1 percent) angular chert fragments ¼ to 1 inch across; strongly acid.

Dr—72 inches +, limestone bedrock.

The surface layer ranges from dark reddish brown (5YR 3/4) to reddish brown (5YR 5/4) in color and is silty clay loam in places. Bedrock is generally 2 to 6 feet deep, but some rock crops out in severely eroded areas. Small fragments of chert occur throughout the soil in some places.

### RED-YELLOW PODZOLIC SOILS
### (With fragipan)

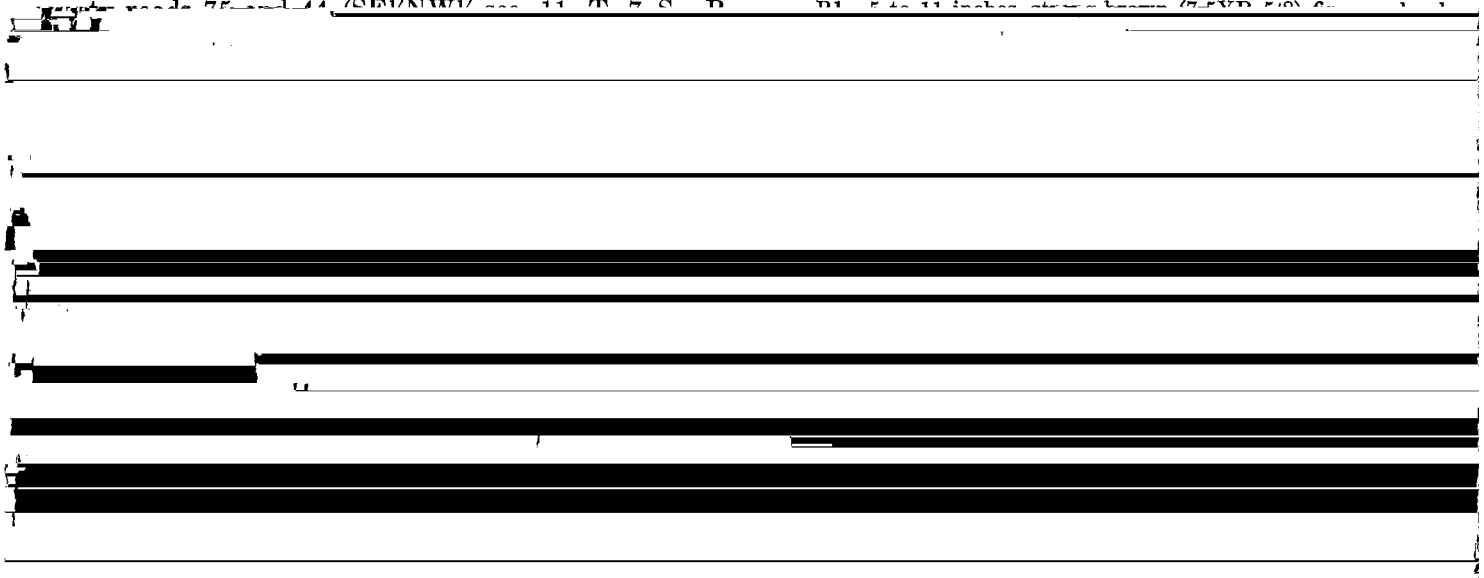
In Franklin County soils of the Cane, Captina, Ora, Prentiss, Savannah, and Tilden series are Red-Yellow Podzolic soils with a fragipan. Except that a fragipan occurs at a depth of 18 to 30 inches, these soils are similar to Red-Yellow Podzolic of the central concept. The fragipan is slowly permeable and slows the movement of water, especially in the lower subsoil. Consequently, in periods of normal or excess rainfall, the upper parts of these soils are saturated. In periods of dry weather, these soils are droughty because water moving upward is retarded by the pan. A description of each series of Red-Yellow Podzolic soils with a fragipan in the county follows; this description includes a soil profile representative of the series.

*Cane series:* In this series are moderately deep and deep, moderately well drained and well drained soils that have a fragipan. These soils formed in old alluvium and local alluvium that washed from soils derived from sandstone, shale, and limestone. They occur on foot slopes and fans along Cedar and Little Bear Creeks.

Following is a profile of Cane loam, 2 to 6 percent slopes, eroded, in a moist, cultivated area near a road, located 1 mile west of county road 75 and south of Cedar Creek (SE¼NW¼ sec. 22, T. 7 S., R. 11 W.):

Ap—0 to 5 inches, dark-brown (10YR 4/3) loam; weak, fine, granular structure; very friable; few sandstone fragments ¼ to 2 inches across; many fine roots; medium acid; gradual, smooth boundary.

B1—5 to 11 inches, strong-brown (7.5YR 5/8) [illegible]



soils occur on stream terraces and developed in old alluvium and local alluvium that washed from soils derived mainly from limestone and partly from sandstone. Following is a profile of Captina silt loam, 2 to 6 percent slopes, in a moist, idle area ¾ mile northeast of Bethsaida Church on county road 48 (SE¼NE¼ sec. 2, T. 6 S., R. 10 W.):

Ap—0 to 5 inches, dark-brown (10YR 3/3) silt loam; weak, fine, granular structure; very friable; many fine roots; medium acid; clear, smooth boundary.

B1—5 to 8 inches, brown (7.5YR 4/4) silt loam; weak, fine, subangular blocky structure; friable; many fine roots; strongly acid; gradual, wavy boundary.

B2—8 to 23 inches, strong-brown (7.5YR 5/8) loam; weak and moderate, fine and medium, subangular blocky structure; friable; a few fine, brown concretions; a few

the Tuscaloosa formation. Following is a profile of Prentiss fine sandy loam, 0 to 2 percent slopes, in a moist, cultivated field 1 mile southwest of New Union Church on the old Red Bay bottom road (SE¼NW¼ sec. 23, T. 7 S., R. 15 W.):

Ap—0 to 8 inches, dark-brown (10YR 4/3) fine sandy loam; weak, fine, granular structure; very friable; common fine roots; strongly acid; abrupt, smooth boundary.

B1—8 to 10 inches, dark yellowish-brown (10YR 4/4) fine sandy loam to very fine sandy loam; weak, fine, granular and subangular blocky structure; friable; a few fine roots; strongly acid; gradual, wavy boundary.

B21—10 to 20 inches, yellowish-brown (10YR 5/6) loam; weak, fine and medium, subangular blocky structure; friable; very strongly acid; gradual, wavy boundary.

B horizon ranges from 15 to 24 inches in thickness, from light olive brown (2.5Y 5/6) to yellowish brown (10YR 5/6) in color, and from loam to silt loam in texture. The depth to the fragipan is 18 to 30 inches.

*Tilden series:* In this series are moderately deep, moderately well drained soils that occur on stream terraces and have a moderately distinct fragipan. These soils developed in old alluvium that washed from soils derived mainly from Coastal Plain sediments of the Tuscaloosa formation. Following is a profile of Tilden fine sandy loam, 2 to 6 percent slopes, in a moist, cultivated area on the south side of Little Bear Creek, 1 mile northeast of Sparks Chapel (SE¼NW¼ sec. 19, T. 7 S., R. 13 W.):

Ap—0 to 6 inches, dark-brown (10YR 4/3) fine sandy loam; weak, fine, granular structure; very friable; common fine roots; medium acid; abrupt, smooth boundary.

B1—6 to 8 inches, strong-brown (7.5YR 5/6) loam; weak, fine, granular and subangular blocky structure; friable; few fine roots; medium acid; gradual, smooth boundary.

B2—8 to 21 inches, yellowish-red (5YR 5/8) heavy loam to light clay loam; weak, fine, subangular blocky

Cg—24 to 54 inches, mottled, yellowish-brown (10YR 5/8), light brownish-gray (2.5Y 6/2), yellowish-red (5YR 5/8), and grayish-brown (2.5Y 5/2) clay; mottles are many, medium, and distinct; massive (structureless); very firm when moist, very sticky and very plastic when wet; many small, dark-brown to black concretions; medium acid.

The surface layer ranges from brownish yellow (10YR 6/6) to very dark grayish brown (10YR 3/2) and in some places is silty clay loam. The thickness of the old alluvium is 2 to 5 feet. In most places the soil contains a few dark-brown concretions ⅛ to ¼ inch across.

#### REDDISH-BROWN LATERITIC SOILS

The Reddish-Brown Lateritic group consists of well-drained soils having a dark reddish-brown, granular surface soil, a red, friable clay B horizon, and red or reticulately mottled lateritic parent material. These soils developed under a tropical forest in a humid tropical climate having wet and dry seasons (*3*).

In Franklin County the Decatur and Greenville soils

*Greenville series:* In this series are dark-red, deep, well-drained soils on uplands. These soils developed in thick beds of acid sandy loam and sandy clay loam of the

moist, sticky and very plastic when wet; very few fine and medium roots; few old root or worm channels filled with light olive-brown (2.5Y 5/4) clay; a few

C2g—35 to 54 inches, mottled light-gray (2.5Y 7/2) and strong-brown (7.5YR 5/8) silt loam to silty clay loam; mottles are many, prominent, and medium; weak, fine and medium, subangular blocky structure; friable; strongly acid.

The surface layer is loam in most areas but ranges from fine sandy loam to heavy loam. In areas of native

places the C horizon is silty clay loam to silty clay. Small, dark-brown concretions are common in places.

### HUMIC GLEY SOILS

The Humic Gley group consists of poorly drained or very poorly drained hydromorphic soils that have dark-

ton silt loam, local alluvium, in a moist, cultivated area ¾ mile southwest of Sloss Lake on the east side of county road 42 (SW¼NW¼ sec. 5, T. 7 S., R. 11 W.):

Ap—0 to 8 inches, reddish-brown (5YR 4/3) silt loam; weak, fine, granular structure; friable; medium acid; gradual, smooth boundary.

C1—8 to 18 inches, reddish-brown (5YR 4/3) silt loam; weak, fine, granular structure; friable; medium acid; gradual, wavy boundary.

C2—18 to 38 inches, dark reddish-brown (5YR 3/2) silt loam; weak, fine, granular structure; friable; medium acid; gradual, wavy boundary.

D—38 to 54 inches +, yellowish-red (5YR 4/8) silty clay loam that has common, fine, distinct mottles or splotches of reddish brown (5YR 4/3); weak, fine, subangular [illegible]

C2—21 to 28 inches, dark-brown (10YR 4/3) heavy silt loam that has common, fine, distinct mottles of grayish brown (2.5Y 5/2) and dark brown (10YR 3/3); weak, fine and medium, subangular blocky and granular structure; friable; a few fine roots; slightly acid or neutral; gradual, smooth boundary.

C3—28 to 46 inches, grayish-brown (2.5Y 5/2) silt loam to silty clay loam that has many, medium, distinct mottles of dark brown (10YR 4/3) and yellowish brown (10YR 5/8); weak, fine and medium, subangular blocky and granular structure; friable; neutral.

In some places the surface layer is silty clay loam. The depth of alluvium ranges from 30 to more than 60 inches.

*Ochlockonee series:* In this series are soils on first bot-

layer ranges from sandy loam to loam in texture and from light olive brown (2.5Y 5/4) to yellowish brown (10YR 5/4) in color.

REGOSOLS

Regosols have few or no clearly expressed soil characteristics. They formed from deep, soft, unconsolidated mineral deposits. Soils of the Guin series are the only Regosols in Franklin County.

*Guin series:* In this series are excessively drained soils that formed in deep beds of sand, fine sand, and gravel of the Tuscaloosa formation and have little or no development of a B horizon (fig. 13). Following is a profile of Guin gravelly sandy loam, 15 to 40 percent slopes, in a moist, forested area 1.2 miles east of Jonesboro on county road 58 (SE¼SW¼ sec. 1, T. 6 S., R. 12 W.):

[redacted]

consists of pebbles ¼ to 3 inches across. Pockets or strata of sand are common in the lower layers. The gravelly sandy loam extends to a depth of 3 to 50 feet or more.

## General Nature of the Area

This section is provided mainly for those not familiar with Franklin County. It tells about the physiography, drainage, geology, climate, water supply, and other subjects of general interest. Details about agriculture in the county will be found in the section "Agriculture."

### Physiography

This county lies in two physiographic areas, the Coastal [redacted]

The Bangor limestone, of Mississippian age, occupies most of the northeastern one-fourth of the county. In addition, small areas are exposed along the lower reaches of Cedar Creek to the mouth of Little Bear Creek, along Duncan and Tollison Creeks near Frankfort, and in a few other places. Bangor limestone consists mainly of bluish-

inches in February 1958, and from 12 to 14 inches in February 1960. The average winter has about 6 days when the temperature falls to 20° or less, 3 days when it falls to 15° or less, and 1 day when it falls to 10° or less.

Spring is the most changeable season. In March the days are frequently cold and windy, but in May they are

TABLE 8.—*Estimated temperature and precipitation, Franklin County, Alabama*

TABLE 19.—*Probabilities of drought days on soils of farm*

Service, Soil Conservation Service, Farmers Home Administration, Forest Service, and Agricultrual Stabilization and Conservation Service.

## Land Use

According to the census of agriculture, 58.0 percent of Franklin County was in farms in 1959. The rest of the county consists of areas occupied by towns and areas owned by the U.S. Government, mining companies, and paper companies. The 1,698 farms in the county averaged 140.8 acres in size.

## Farm Tenure and Types of Farms

TABLE 11.—*Acreages of principal crops and number of fruit trees and grapevines of bearing age in stated years*

| Crop | 1939 | 1949 | 1959 |
|---|---|---|---|
| | *Acres* | *Acres* | *Acres* |
| Cotton, harvested | 24, 350 | 31, 280 | 10, 110 |
| Corn, all purposes | 42, 852 | 34, 075 | 23, 203 |
| Small grain: | | | |
| Oats threshed or combined | 20 | 322 | 275 |
| Wheat threshed or combined | (1) | [2]141 | 371 |
| Sorghum for all purposes, except sirup | 310 | 405 | 265 |
| Soybeans for all purposes, grown alone | 6, 811 | 2, 496 | 1, 072 |
| Harvested for beans, grown alone | 43 | 309 | 700 |
| Cut for hay, grown alone | (1) | 2, 187 | 372 |
| Hay: | | | |
| Alfalfa and alfalfa mixtures cut | | | |

*Firm.*—When moist, soil crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

*Plastic.*—When wet, soil readily deformed by moderate pressure but can be pressed into a lump; forms a "wire" when rolled between thumb and forefinger.

*Sticky.*—When wet, soil adheres to other material, and tends to stretch somewhat and pull apart, rather than to pull free from other material.

*Hard.*—When dry, soil moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

*Compact.*—A combination of firm consistence and close packing or arrangement of soil particles.

**Contour tillage.** Plowing or cultivating at right angles to the direction of slope, at about the same level throughout, and ordinarily at reasonably close intervals.

**Mapping unit.** Any soil, miscellaneous land type, or undifferentiated soil group shown on the detailed soil map and identified by a symbol.

**Mottled.** Irregularly marked with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: Abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent* (*6*).

**Parent material.** The unconsolidated mass of rock material from which the soil developed.

**Permeability.** The quality of a soil horizon that enables water or air to move through it. Terms used to describe permeability are as follows: *very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

**Profile, soil.** A vertical section of the soil through all its horizons

sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

**Tilth, soil.** The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

**Topsoil.** A presumed fertile soil or soil material, ordinarily rich in organic matter, used to topdress roadbanks, lawns, and gardens.

## *Literature Cited*

(1) ADAMS, G. I., BUTTS, C., STEPHENSON, L. W., AND COOKE, W.

(7) SLOCUM, G. K., AND MILLER, W. D.
1953. VIRGINIA PINE. N.C. Agr. Expt. Sta. Tech. Bul. 100, 52 p., illus.

(8) THORP, JAMES, AND SMITH, GUY D.
1949. HIGHER CATEGORIES OF SOIL CLASSIFICATION: ORDER, SUBORDER, AND GREAT SOIL GROUPS. Soil Sci. 67: 117–126, illus.

(9) UHLAND, R. E., AND O'NEAL, A. M.
1951. SOIL PERMEABILITY DETERMINATIONS FOR USE IN SOIL AND WATER CONSERVATION. Soil Conserv. Serv., Tech. Pub. 101, 36 p., illus.

(10) UNITED STATES DEPARTMENT OF AGRICULTURE.